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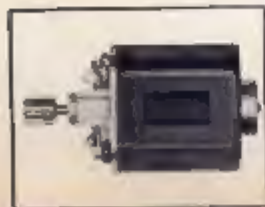


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model car *Science*

Volume 3, Number 3

March, 1965

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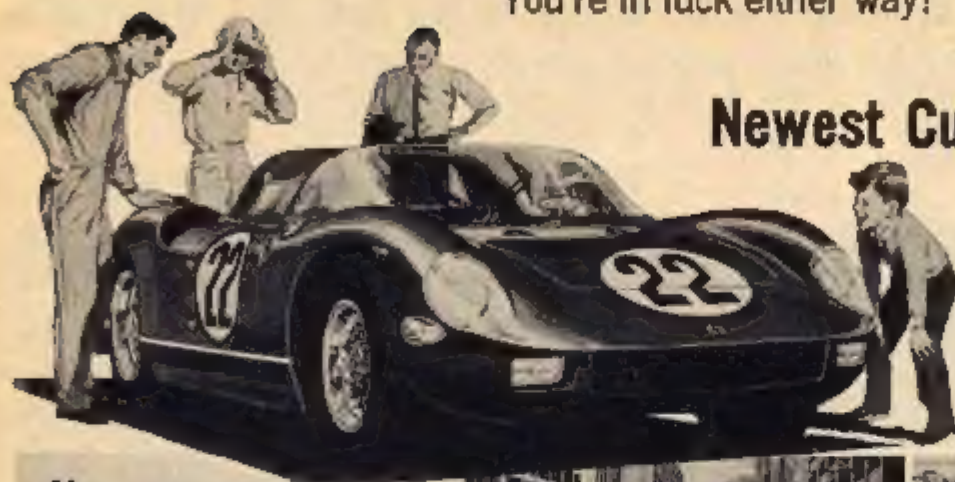
ON THE COVER — Scrupulous attention to detail is displayed in the extraordinary craftsmanship shown in this model. It was one of the many thousands entered in the Revell Open Contest. Many of the secrets to success in obtaining a model of this quality can be found in the material appearing on page 23 and 26 of this issue.

Choose 'em by guess or preference!
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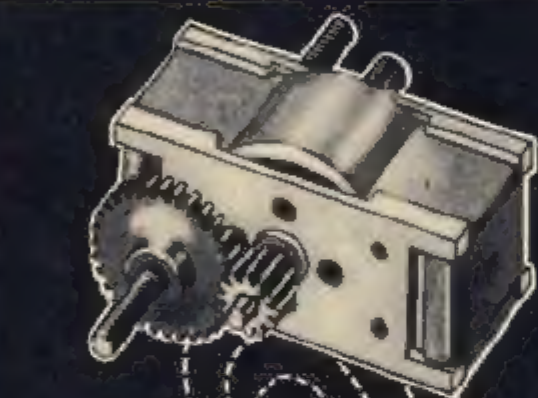
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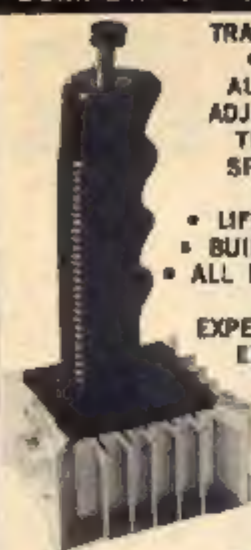
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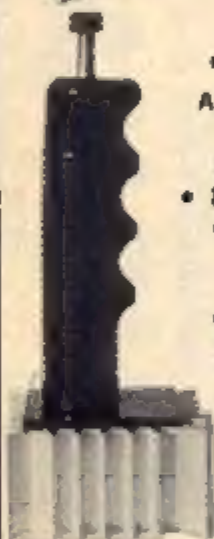
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H. O. SCENERY

I have been building an H.O. scale track and I was wondering if you could give me any information about scenery such as trees, shrubs and grass?

Richard A. Heiman
Victor, Iowa

Our compliments on your wanting your layout to be more than a bare bunch of track on a table. You'll find a load of valuable info on this subject in this issue. Most all of the material you will require for any track side decoration is available in the model railroad section of your hobby store. Many good articles on this subject have also been appearing lately in our companion magazine, *Model Car and Track*. If they are not available to you locally you could write to the office: Delta Magazines, Inc. 171 South Barrington Place, Los Angeles 49, California.

A CANDY APPLE FORD

I would like to know if there is a 427 Ford engine kit on the market besides the one in the 1933 Ford Vicky kit? I would also like to know if there is a company that makes Candy Apple Green spray paint?

Craig Gagne
Deerfield, Illinois

Revell has a 427 Ford engine as a part of their Custom Car Parts line of accessory kits. Pactra has a very fine Candy Green spray paint in their line.

WHAT'S THE DIFFERENCE?

Can you tell me what is the difference in Atlas cars and Aurora cars. I know there is some difference, but what?

Jay Simon
Canyon, Texas

The major difference between the two makes of cars is in the motors. The Atlas car uses a conventional type of motor installed in what is considered

the conventional manner. That is an in-line position with the armature shaft horizontal and on the center line of the car. The Aurora installation is an integral design in that the frame of the motor is part of the car frame, with the armature shaft installed in a vertical position instead of horizontal. This design has a very short motor shaft but has a large armature diameter which gives an abundance of torque. The use of a vertical shaft motor requires a different type of gear train. It uses three horizontal gears, the last attached to a vertical shaft which in turn is geared to the axle.

THE SPRINGY THING

What is the name of the motor used in the "Springy Thing" article that appeared in the December issue of M.C.S. page 337? What would be the best way to attach it to such a frame?

Tom Pozniwko
Chicago, Illinois

The motor used was a Revell SP510-X. It looked different because of the number of holes drilled in the case. They don't reduce the weight much but every little bit helps. Small self tapping screws were used to mount the motor using the little holes in the plastic end case and one hole drilled in the opposite end between the magnets.

DUAL ENGINED

I'm planning to build a custom "T" and am going to use Monogram's "Little T". I would like to put two Revell 427 Ford engines side by side in it. Will they fit? If not, what engines or engine would you recommend?

Albert Redwine
Kingston, Oklahoma

Sure they will fit but don't think they will drop in without a bit of work and planning on your part. Although they

Continued on page 10

PYRO

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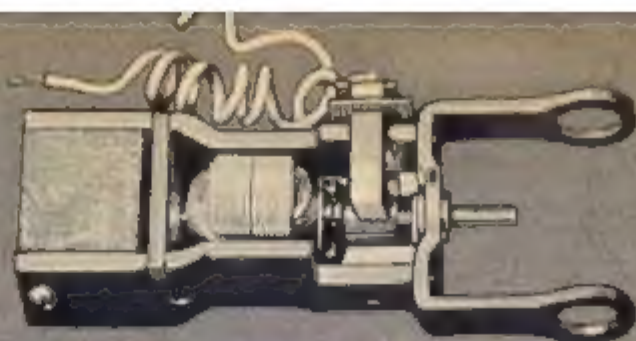
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are in 1/32nd scale, two good examples of the same type of installation are the cover car of the November 1964 issue and the Injector in the January 1965 issue of Model Car Science. In both of these models, the frame is very low and the engines set above rather than between the rails.

SCALE MILES

My problem is this: I now have a Scaletric track set and am wondering how many miles of track I have according to scale-size. In the 1/32 scale, I now have 59 feet of track (Measured with a regular ruler, thereby equaling 708 inches). Could you please let me know the mileage, as I would like to determine the size of my set?

Alvin M. LeBlanc
 Gardner, Mass.

Figuring scales are quite simple when you stop to think about it. One inch is equal to 32 inches and one foot is equal to 32 feet. You have 59 feet, which is equal to 1888 scale feet. This is just 92 scale feet less than 1/32nd of a mile in 1/32nd scale.

MOTOR PERFORMANCE

I was reading the Dec. '64 issue of M.C.S., when I ran across the article about "Motor Specifications" on page 48. I noticed that the Pitman DC85A slot racing motor has an operating speed of only 8,700 RPM's. Why do so many drag and slot racers use the DC85A rather than the Revell 77?

Kevin Ibbelton
 Vancouver, B.C.

RPM's will vary a great deal with the voltage used. On twelve volts the 85A is down on RPM's but does have more torque than most motors due to the large diameter of the armature. But give this little powerhouse 36 volts, as used by most on the drag strip, and boy it's another story. The RPM's go way up and up and the torque is still very good.

SMALL TUBES

In many of your articles on slot racing you use much small size tubing (such as 1/16, 1/8", etc.). This is fine except for one thing, where do you get this size tubing? I live overseas and the smallest size tubing we get over here is 3/16". This is a little big seeing that I am a 1/32 scale fan. I would appreciate it if you would please tell me where to get it and the average cost of it.

Eric Larson
 Adana, Turkey

You can purchase it by mail through many of the model supply houses in England. They do not use too much in their cars, but they may stock it as boat propeller shaft housings. Only other alternate would be to send to one of the big hobby supply houses in New York

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RUNS BACKWARDS

Recently I purchased an H.O. car made by Faller of West Germany. When I tried the car on my Atlas track, I found the car was trying to run backwards or clockwise compared to Atlas cars which all run in a counter clockwise direction. Now, is there any way I can get the car set up for my track or should I just tear out the motor and replace it with components from Atlas or Tyco?

James E. Miller
Long Island City, N.Y.

This is just a case of switching the polarity. All that is required is to reverse the motor leads to change the direction of motor rotation.

CARS OF CLAY

I would like to find out where to get the clay for a car. In the May, 1964 MCS there was an article on how to make a car out of clay. I would appreciate it if you could give me any additional information.

Alan MacKenzie
La Puente, Calif.

Oil base modeling clay is the material used. It is available from any store that carries art supplies. A point to remember is that the final model is not made of clay. It is used only as an intermediate medium to determine the acceptable contours that are desired. These are then transferred to a planter or wood model that becomes the actual car.

A PROBLEM IN SCALE

I have just completed building a 1/32nd scale Revell Sting Ray. Everything on the car is completely stock, with the exception of the rear tires. They are Revell 1/25 scale. I have ground only the tread off to make them slick. Now my hobby dealer says I cannot race in 1/32 scale because of the tires!

Bob Snyder
Nazareth, Penn.

A lot depends upon the local rules in effect in your area. They appear to conform with the majority of groups and organizations which are trying to hold races in which all entries must conform to scale with a few allowable variations. This is good, as it eliminates the very unorthodox things that go very well but have no resemblance to any car you or I will ever see in actual size. Revell as well as many other manufacturers now have scale wide base wheels and slicks that are in scale. With these you will be legal unless it is a completely stock Revell race as many hobby shops are now holding.

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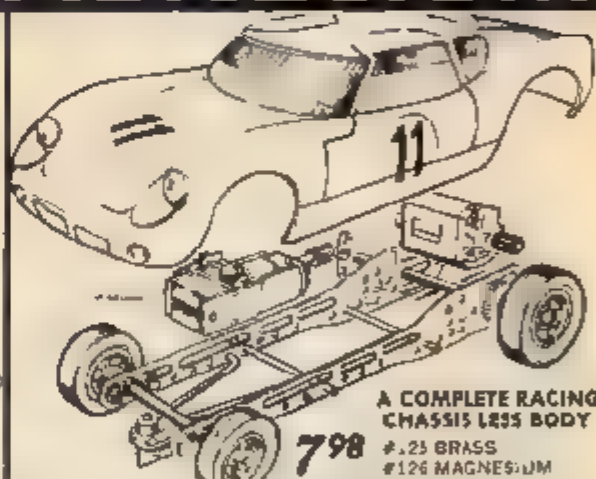
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BARRIS KUSTOM KORNER



Aloha, Gang. This month's column was started on a jet flying over the Pacific Ocean, probably passing the Matson Line ship which is carrying our newest rod creation, the Surf Woody, to Honolulu, Hawaii.

Now put yourself in this wild Hawaiian atmosphere and I'll bend your ear with lots of information. We were given the royal Hawaiian treatment upon arrival. Out came the leis, pineapples, the hula skirts, the surfers and the press. We then proceeded to the arena where

we uncrated the Woody and drove it out of the trailer in front of the wide-eyed Hawaiians as they stood in amazement.

We then proceeded to the arena where asked to be one of the many fantastic exhibits at a very successful first annual hot rod show. We then vacationed in the sun, surfing, skin diving, sailing the out-riggers at Waikiki Beach. We also attended the Hawaiian Championship Drag Races, where many racing records were broken. After eight glorified days we loaded the surf woody back on ship and then we were given the traditional aloha treatment as we boarded the jet back to the mainland.

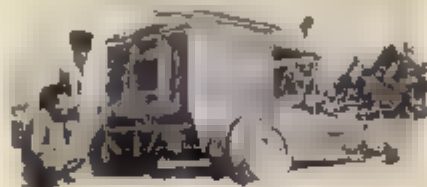
Now hear this, here's the answer to your dreams. AMT is making a real hot model of the Surf Woody with more new goodies than you can ever imagine.

Meanwhile, back at the roaring plant, my crew recently finished a new con-



tinental for movie actor Audie Murphy. The night I delivered the car to Audie, I showed him all the different styling innovations, such as Cibie square headlamps imported from France, a hand made grill, wild Astro wheels with chrome knock offs. It also has a black leather top with one way viewing side windows, plus a small back glass and it is finished off in pagan gold Kandy Colors. The interior was topped off with a Muntz stereo tape musical system.

We have got to say aloha for now. Look for me in the Promotions, Inc., Washington, D.C. show April 2, 3, and 4, making a personal appearance for the Ford Custom Car Caravan, where a championship full size car builder will be given a brand new Mustang, and some lucky modeler will win a 1965 Corvair Monza fastback with a hot engine.



The Case of the Missing Blades

(or handles, pliers, files or whatever)

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lines — Tiger Traction rubber racing tires — sturdy self-aligning brass frame — light weight precision aluminum wheels — plated insert hubs — precision steel gears — steel axles with machined threads — bronze bearings — racing driver and authentic details. Assembly is easy. No painting, soldering or finishing.

See the Scarab and Lola and other Monogram racing models at your favorite store.

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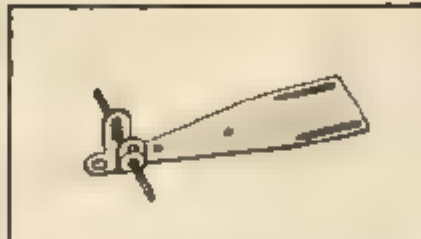
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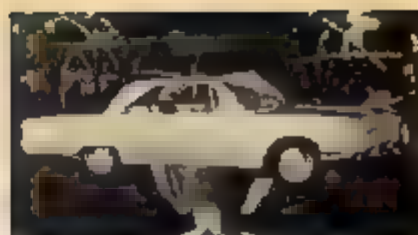
Price for the Hobby Craft Work Table is \$19.99 without a light bulb. Address of your nearest supplier can be obtained by writing California Hobby Distributors, Dept. MCS, 416 S. Palm Ave., Alhambra, California.



International Engineering, of Redondo Beach, California, has a new racing sled-type chassis made of light weight anodized aluminum. Wheelbase is fully adjustable and lowest possible center of gravity is used. Front end is touch and oil, and front axle is included. Pitman 704, 705, and 706 motors will fit, as well as Ram 222, 426, and 426A. Price is \$1.69.

Also available is a cleaner and lubricant called "Super Power" which has been used successfully on all types of slot tracks. May be used on bearings and pickups and commutators. Price \$1.69 a bottle.

Additional information may be obtained by writing to International Engineering, Dept. MCS, Box 1025, Redondo Beach, California.



The popular 1965 Dodge Monaco 2 + 2 hardtop has been shrunk to 1/25 scale by Model Products Corporation of Mt. Clemens, Michigan.

Available in the new Styron plastic, kit is finished in base metallic gold. It may serve either as the finish or a base for translucent top coats. Also included is a display stand which turns four hours without batteries.

Other features include simulated walnut body panels, three engine options, detailed chassis, chromed dash and console inserts, four dual-throat Weber carbs.

Kits may be obtained at your local hobby centers.



Drag and slot racers may now obtain the new M.I.A. Magna Series 700 machined magnesium racing wheels. Precision machined, balanced, and hand polished, the wheels are available in three types: the 700 is for 1/24-1/25 scale rear tires; the 700F for 1/24-1/25 front tires; the 700-2 is a 1/32 scale wheel. The wheels come in matched two wheel sets with 1/40 threaded hubs. Wheel weight is less than 20 grams.

Sets may be purchased at local hobby shops or from C & O, Ltd., Dept. MCS-25 Box 74431, Los Angeles, California 90004.

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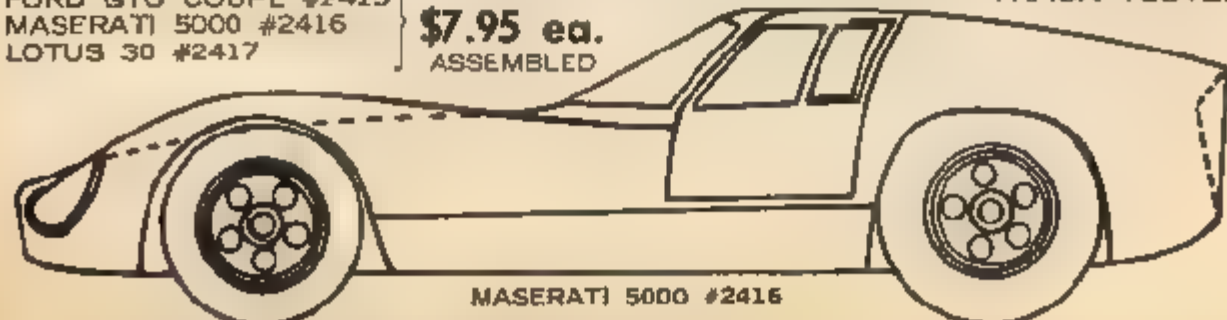
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Looking for something? Model cars, racing kits, parts and supplies? Then you may find just what you need in the 1965 Model Cars & Model Racing catalog now available for 25c from Auto World, Dept. MCS, Box 961, Scranton, Pa. Within its 196 pages are found cars, parts, tools, paints and equipment from over 90 manufacturers. An abundant number of photographs show the great variety of products available to the modeler.



The K & B 80cc motor is now on your dealer's shelf. This super-fast motor is a larger example of the popular small Mauchli motors. Brackets are provided for rear axle mounting and for mounting the motor in any of the current frames. Motor produces 867 horsepower with 30,000 R.P.M. For more information, contact K & B Mfg. Corp., Dept. MCS, 12151 Woodruff Ave., Downey California.

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FIRST REPORTS BIG NEWS IN CAR KITS

REVELL

At any time, and at any place, whenever sportscar enthusiasts gather to bench-race, there are five car names which invariably are mentioned. The reason is obvious: they are the cars to be reckoned with because they are outstanding performers. The cars are Ferrari, Corvette, Cobra, Lotus, and Porsche.

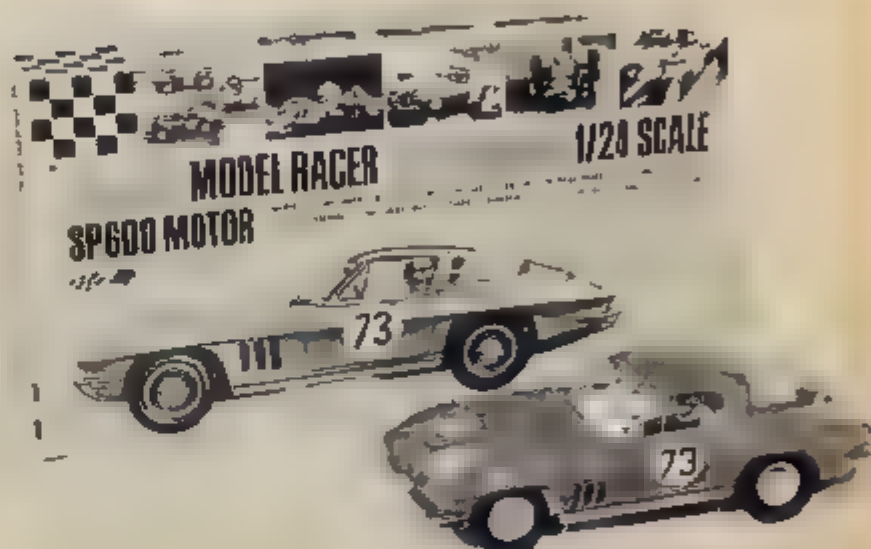
This being the fact, Revell, Inc., has started the 1965 season of slot racing off with authentic models of each of these formidable performers. Let's take a look at them in detail.

The Ferrari is a 250 GTO coupe, and the Corvette is a Sting Ray coupe, while the Cobra is an open roadster. Each of the kits comes with a host of features which make them ideal. Bodies are high impact, one-piece plastic, with clear plastic windows and headlights and sharp detailing. Chassis are all metal and each kit includes an SP600 motor. Steel parts are drive gears, pinion gear, and axles. Wheels are precision machined aluminum with chromed inserts. Sintered bronze bearings, braided pickup wire, and regulation adjustable pickup guide complete the chassis. Additional items are detailed driver figure, sponge rear slicks, and pressure sensitive racing numbers. Scale is 1/24 and price is \$7.00 per kit.

For those who prefer to build chassis of their own design, Revell also has the Sting Ray, Cobra, and Ferrari bodies as separate items, retailing at \$1.50 each. Bodies are attached by machine screws.

The Porsche is an RS60 roadster, while the Lotus is a model 23 roadster. Each of these is equipped with Revell's new SP510X motor. They also feature all the details listed above for the other kits. Scale is also 1/24, but price is \$6.00 each.

Once a slot racer has obtained a stable of these five performance machines, he is likely to want to extend his track. To do so, he may want to check Revell's open stock of track sections. Straight curved track, plus spin-out aprons and spin-out apron transitions are now available.



THE 1/24 SCALE STING RAY KIT IS A TIGER FOR \$7.00.

REVELL'S FERRARI 250 GTO KIT SELLS FOR \$7.00



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REVELL'S SP-600 MOTOR POURS THE JUICE TO THE COBRA.

THE 1/24 SCALE PORSCHE RS-60 KIT IS \$6.00 COMPLETE.

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MARCH 1965

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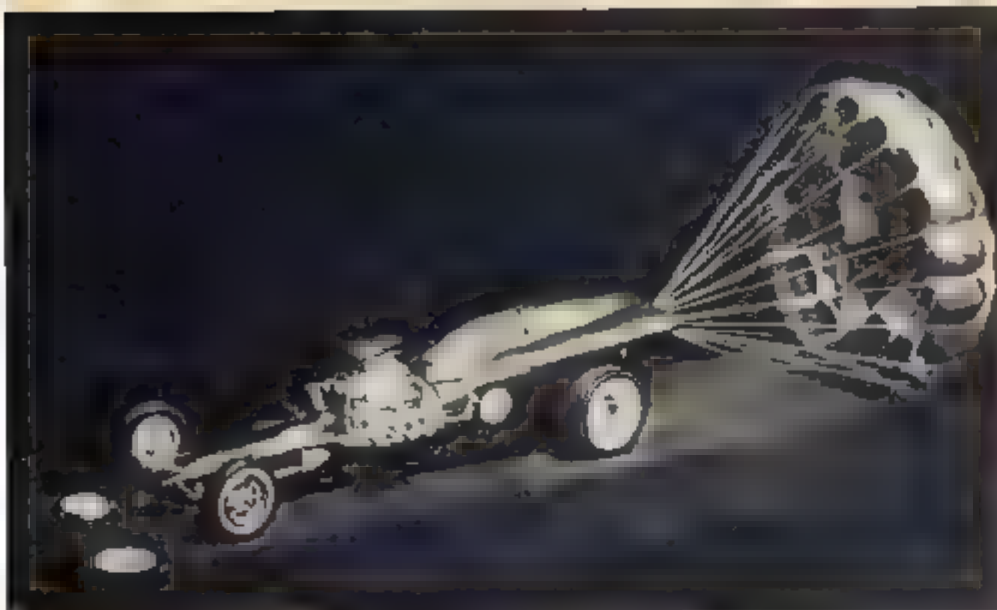
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Contest Winners

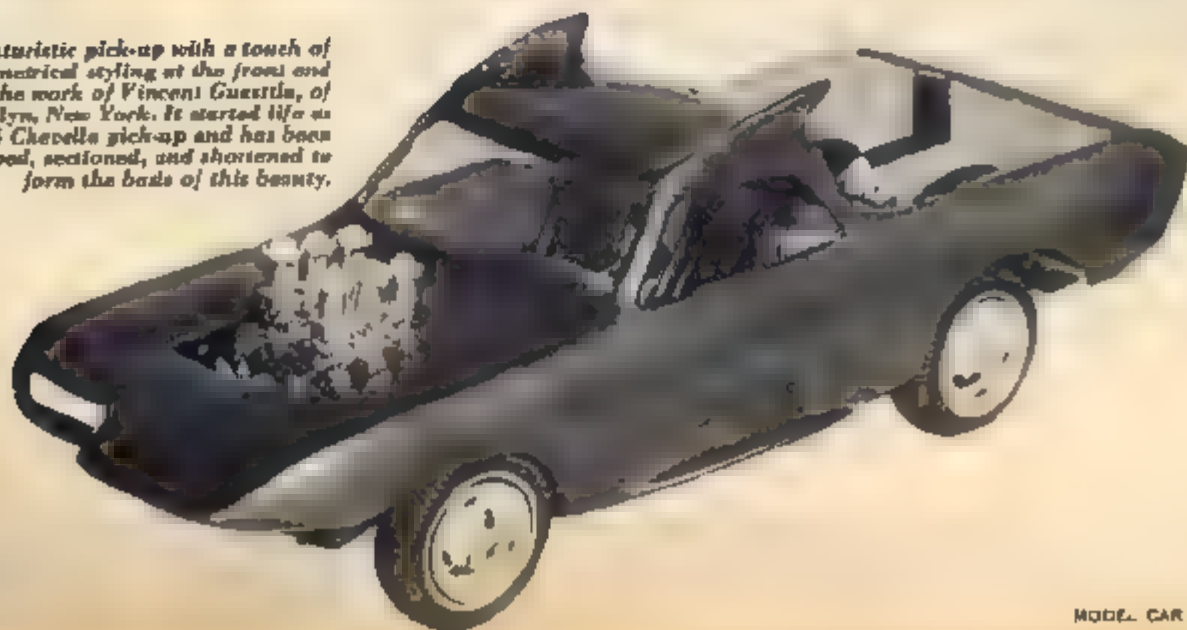


This month's overall winner is an original dragster by Don D. Conard, 610 Parker Street, Whiteland, Indiana. The front section is a Tany Yancy Dragster and the rear, although you won't recognize it, is from the A.M.T. 27 "T" Tub, from the XR-6 kit. This little beauty earned Don a \$25.00 U.S. Savings Bond.

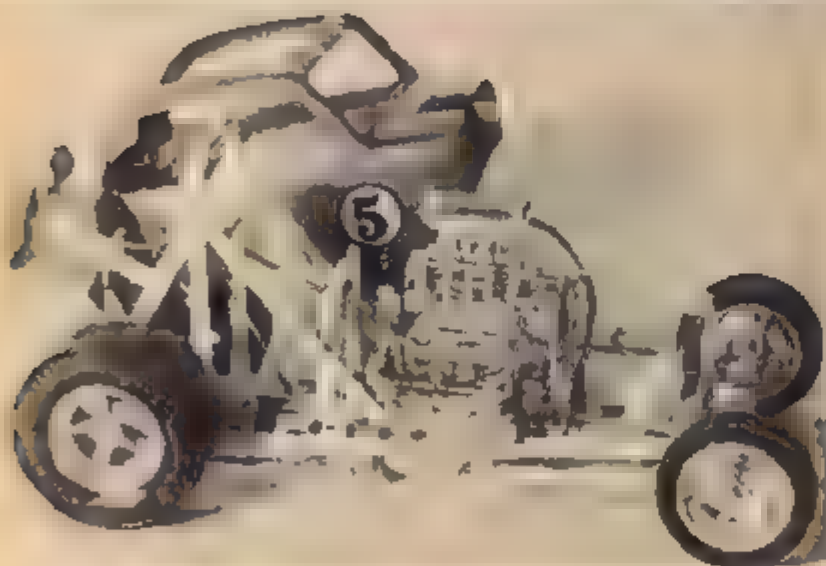
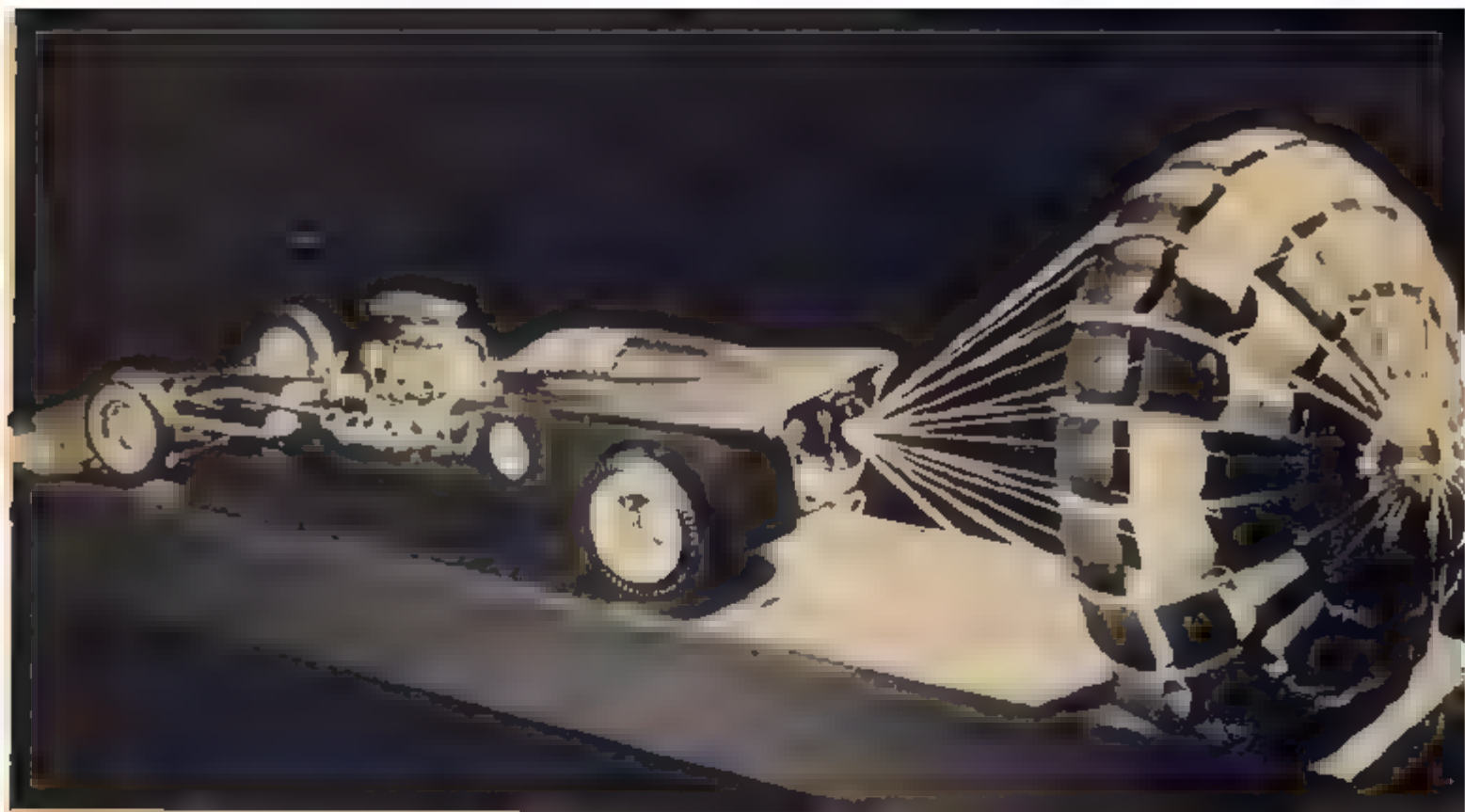


Front end is assembled with #00-90 bolts and nuts to obtain working steering, these are also used to attach the rear wheels. Three-volt grain of wheat bulbs operate head and tail lights when button is pressed in front of model. Engine has full detail plumbing and wiring and the interior has the same treatment including driver with fire suit.

A futuristic pick-up with a touch of asymmetrical styling at the front end is the work of Vincenti Gustita, of Brooklyn, New York. It started life as a '64 Chevella pick-up and has been chopped, sectioned, and shortened to form the basis of this beauty.



This excellent example of a competition roadster is the work of Lloyd Hollebeke, of El Paso, Texas. The entire chassis is out of his spare parts box, only parts purchased were the body and engine to complete a fully detailed well constructed model.



Our younger modelers are doing alright. This one is by Pat Haire, Age 13 of Ida, Kansas. It is a clean Fiat Dragster with a blown Chrysler mill.



This is the complete setup ready to travel to the strip and shows Haire's dragster assembled behind his custom '58 Chevrolet.

Modest Bruce Buckheist of Littleton Common, Mass., did not think his model was good enough for our contest, but his excellent attention to small details and clean work make it an excellent model. Notice the neat rolled edge of the interior upholstery and the added padding at the seat back.

The chassis of Bruce's street rod is completely detailed and well executed, no details have been omitted and everything is in its proper location.



Bill McCready of Chicago, Ill. built this clean competition roadster on a '32 Ford chassis and body. The engine is from Tony Nancy Dragster. Front end is jacked up for better weight transfer.



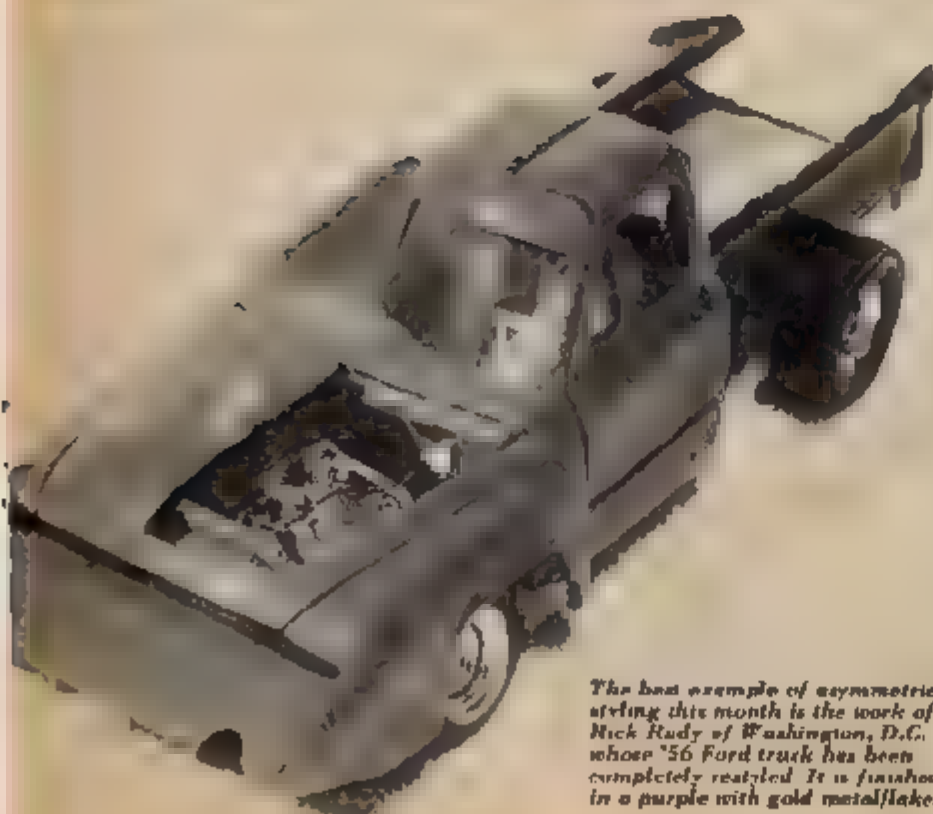
Just look what Don Culp, Forchoniet, Arkansas has done in restyling his '65 Mustang. New top is from Sting Ray Corvette, side scoops are Rexell Mystarion, finish is a mixture of Pector candy red and A.M.T. Fireorange metalflake.



Our youngest entry this month is from 12 year old Hadi Mattson of Long Beach, California. His model is a mid engine competition roadster, using a Model A Ford body and a blown Chrysler engine. The driver sits inside the hood from the Orange Crate. The body hinges from the rear to expose the engine.



If you can recognise this cute little truck as a '63 Chevrolet pick-up you are sharp, but that is what Darrel Willmash of Smith Center, Kansas used as a starter for his tilt-cab hauler. A lot of original thinking went into the design and construction of this one.



The best example of asymmetrical styling this month is the work of Rick Rudy of Washington, D.C., whose '56 Ford truck has been completely restyled. It is finished in a purple with gold metalflake.

Another one from across the water, this time Australia, and is the work of Rod Mackenzie, of Dularich Hill N.S.W. It is his version of A.M.T.'s '34 Ford pick-up. It has been shortened and channeled and has had a blown T-Bird engine installed.

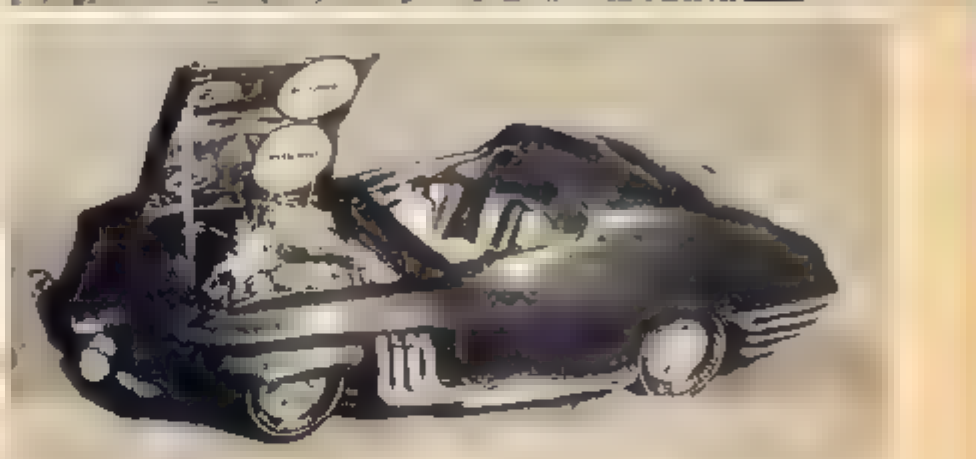


The photo does not do this one justice but Harry Auffinger of Lyndhurst, New Jersey has completely restyled and fully detailed his '64 Tempest Le Mans Convertible. Nothing wild or far out, just good sensible design, the kind of car any of us would like to drive to school or work.



Original Design by George Zarnaschi, Rochester, New York using a '30 Ford Phantom. Flared body panels at side and back have been added using balsa. The front fenders are '40 Ford with a Ala Kari grille between.

A radical restyling of a Corvette by Sheldon Cousins of Toledo, Ohio. The extended nose is scratch built of balsa. The fully detailed engine is the Revell 127 Ford, with eight Weber carburetors installed from the A.M.T. Cobra. The fastback is from the I.M.C. Mustang II kit.



This excellent example of exterior finishing on a 300SL is from across the Atlantic. It is the work of an MCS fan in Walbrzych, Poland. Except for the setting, it looks like the real thing.

Milford Renfrow of Central City, Kentucky has installed an unusual intake system on his Street Roadster. At first glance it looks like a dual engine job, but it's dual blowers on a cross over manifold mounting a Pontiac engine.



Another entry by Don Culp. This one is his version of the Lil Coffin. The front end of the Mysterion kit was used on this one. The Revell Chrysler engine is fully detailed.

PAINT like the PROS



ASK the fellow whose models win trophies and he'll tell you that nothing beats the sense of satisfaction derived from a perfectly finished product, assembled correctly, painted correctly — a gleaming little gem of a car rivaling the beauty of any smooth job out there in the garage. In spray painting a model car — as with every skill or sport — there's a right way. This may be more time consuming perhaps, demanding greater care and the proper quality paints and materials but it's the only way that produces an end result equal to the time and effort expended. This article endeavors to present the techniques and professional tips on spray painting with enamel to help you achieve the goal every modeller wants.

Materials

1. Soft Spray Paints in the colors of your choice. Two-tone cars are very popular, with interiors matching or complementing one of the exterior colors. Your personal taste is your only limitation. One leading paint manufacturer, Pactra Chemical Company, makes Soft Spray Enamel in regular, metallic, candy and pearl/lustre finishes in every color imaginable. Remember candies require gold or silver undercoater.

2. Masking Tape — for the more experienced modeller who paints his car after assembly. When painting the body, for instance, he masks off the top.

3. A spray booth and turntable are optional, but recommended. The spray booth which can be made from a corrugated box prevents paint from splattering surrounding objects. The turntable prevents fingermarking freshly painted areas. To make this, cut a piece of paper board in a circle and fasten to bottom of a coffee can with glue.

4. Aero Gloss Rubbing Compound is recommended for use between coats and after the finish coat. This is an ultra-fine abrasive which removes any foreign matter (hair, dust) which may have dried into the paint.

5. 400-600 grit sandpaper (very fine grade) to sand off possible overspray.

Preparation

1. Spray painting is best done at room temperature — 70-80°

2. Select a well ventilated, dust-free area.

3. The surface you are to paint should be clean and dry.

4. Decide on the colors for various car parts. Then group together parts that are to be painted the same color.

5. Open up all holes in the plastic parts and remove flash from edges.

6. Secure parts to a piece of cardboard with masking tape.

Painting

1. Shake paint spray can a full minute before beginning to paint.

2. Spray approximately 10 inches away from the article. Spray motion should be back and forth, not up and down. Each pass of the spray should start ahead of the object and continue beyond it. The secret of achieving a professional finish is to work steadily and evenly, keeping the spray cone always in motion. Do not spray in bursts or hesitate between passes. Keep the spray nozzle all the way down. It's a good idea to practice on a piece of scrap to get the feel of the motion, and see the effect.

3. The first coat should be very light. Don't be concerned if it appears faint. A number of light applications gives a richer finish than one heavily applied coat. Spraying too heavily results in streaks and runs. Pactra's "soft spray" action is especially suitable for this reason. Your colors are mixed on, giving the smooth desirable result.

4. Wait 20-30 minutes between coats.

Special Tips for those Special Candy Colors

They look good enough to eat, but they do require some special — though not difficult — handling.

1. These are translucent colors and must be applied over a gold or silver undercoater.

2. First coat will show up weak and uneven, but color will even up as other coats are mixed on. A build-up of two or more coats is essential.

3. Finish coat should be sprayed on very close so it almost flows on.

Finishing Touches

After finish coat is dry, apply rubbing compound to remove any rough spots. Then, if desired, apply a coat of wax for that extra shiny finish — and added protection.

To illustrate the effect this little bit of extra effort has — one user of Pactra's Aero Gloss Wax reported to the company that his model happened to be left outdoors during a hurricane in New England and when the model was found several months later, it was completely intact and looking as if it had just come out of the paint shop!

Spray Painting AFTER Assembly?

Though most beginners paint before assembling the model, many proficient modellers prefer it the other way round. They say only in this way are parts of the same color exactly matching. If you use this method, sand off any excess glue and remember to mask off areas of contrasting color. Never use masking tape on candy colors, as the undercoater has a sticky consistency which will adhere to the tape and peel off with it.

After Painting

Always clear the spray nozzle by inverting the can and spraying for a few seconds. If on re-use the nozzle is clogged, lift it off and clean by inserting a pin in the spray hole and running your fingernail through the slot in the spray tube.

The Good Elf Gig

Illustrations by JACK BONESTELL

By BEN BULL

SCRATCH 'MCBILT energetically beat his head against the wall while his buddy, Wilbur Fooch, sat quietly nearby sympathetically watching and skillfully cleaning his fingernails with an Exacto knife.

Thump, thump, thump went McBilt's head. "Man, I don't think you should *quit* like this," murmured Fooch, wincing at each thump. "Like banging your skull against the wall is only gonna get you a headache."

Thumpity thumpity thump went McBilt's head a little faster.

Fooch yawned sympathetically. "Okay be defiant. I just hope you've got plenty of aspirins around this pad."

McBilt turned from the battered wall, eyeing Fooch grimly. "What's one more headache? I can't possibly have the necessary number of scale-model cars and the custom built slot-track completed in time for that Special Show & Go Annual Contest — and that's *that*!"

"You gotta have two cars and a whole, handmade track in order to qualify?"

McBilt shook his aching head. "That's what the entry requirements state. Two 1/25th-scale model cars equipped with electric motors and a custom slot-track with a minimum of four lanes." He slumped defeatedly into his chair at the workbench, staring gloomily at the tools, materials and partially completed segments of track scattered on its top. "I think I can finish the track in time, but I haven't got a raindrop's chance in the Sahara of getting the two cars done by next Wednesday."

Fooch picked up a piece of track, studying it thoughtfully. "Wotta shame! Here you are, building this beautiful set-up — handcarving it from old endtables and you won't make the trophy scene just because you can't whip up a couple little scale-model winners in time? It don't seem fair, somehow."

McBilt sighed. "Well, you know the old saying: 'For want of a nail the race was lost' or something like that."

"I'm hep," agreed Fooch. "I'd offer to help you but you know me when it comes to tryin' to build anything. Even my thumbs are all thumbs."

"Yeah," mumbled McBilt. "I distinctly remember that it took you four and a half years to assemble that Tinkertoy Set you got for your birthday."

"Uh . . . well, man, it ain't *quite* assembled yet," Fooch admitted, his sallow



Scratch beat his head against the wall while Wilbur sat quietly nearby — cleaning his fingernails with an X-Acto knife.

face flushing with embarrassment. "But, then, I've had a lotta head colds and all, y'know."

"You have figured out the instructions, haven't you?"

Fooch drew himself up to his full height, an expression of outraged indignation turning his mean little face into a mask of repressed anger. "Well, certainly! What do you think I been *doin'* for the last four and a half years — sit on my hands?"

"Yeah, I guess I can forget about asking you for help on this Show & Go project," McBilt said disparagingly. "Short of sheer magic, I've had it so far as that Contest is concerned."

Fooch leaped to his feet, a wild light flickering in his eyes. "That's IT, man! That's the ANSWER!"

"What answer?"

"SHEER MAGIC!"

"Oh, come on, Wilbur. I'm just not in the mood for jokes."

"We'll put some warm milk in a bowl, slash it outside the backdoor and let the Good Elf build them cars for you!" Fooch hully-gulled back and forth across the room. "Everybody knows that Good Elf cat is a whiz at gettin' things done fast!"

"You feeling all right?" asked McBilt.

"Well, I feel a head cold comin' on but —"

"Forget the Good Elf!"

"It'll work, man, it'll work!" Fooch insisted. Any cat smart enough to repair shoes has gotta have enough talent to put a scale-model kit together! Don't that figure?"

"Wilbur," said McBilt patiently. "Do you sincerely believe in Santa Claus?"

"Sure, but what's that got to do with havin' the Good Elf build them goodies?"

"Oh, it figures, it figures."

"C'mon, man!" Fooch urged, pulling McBilt to his feet. "Let's start heating up the milk right now! We'll put a couple 1/25th-scale model Mustang kits out there with it and — *bing-bang!* By morning, you'll have cars!"

"Wilbur, the Good Elf is strictly from Fairy Tale City," McBilt protested. "There *ain't* any such type. He's imaginary A fable."

Fooch peered determinedly, eye to eye, at McBilt. "Listen Scratch-baby," Fooch said in a hoarse tone, "have you ever actually *tried* puttin' warm milk out for the Good Elf?"

"Well, no, but —"

"Then, if you ain't *tried* it — don't knock it!" Fooch began looking through the stacks of unopened model car kits on the shelves above the workbench. "You gotta have a little faith, good buddy!"

"This is ridiculous!"

"You'll think different tomorrow morning," Fooch assured him. "One look at them completely assembled Mustangs and you'll think different!"

McBilt took two Mustang kits from the shelf shaking his head. "Okay, I'll go along with the gag — even if I'm still not in the mood for this kind of jazz."

Thirty minutes later they stood on the back porch, a large steaming bowl of milk and the car kits at their feet. McBilt shivered slightly in the chilled night air.

"Crazy!" murmured Fooch happily.

"It's crazy, all right," grumbled McBilt. "In fact I can't think of anything crazier than expecting a nonexistent Elf to build cars out here, I'm going to hate myself in the morning."

"Shhhhh!" Fooch cautioned, his finger pressed against his lips. "You want the talented little cat to hear you and, maybe, get too backed to build them cars?"

"Wilbur," said McBilt, starting for the door. "you're really something else!"

"Ain't we all!" chuckled Fooch.

At precisely seven-thirty the next morning, McBilt stood on the backporch — his stunned eyes reading the note taped to one of the car kits. Fooch read it over his shoulder. At their feet stood a cold, soggy bowl of milk, untouched as were the kits.

The note said

You flaks are out of your minds, try-

MODEL CAR SCIENCE

ing to come into working for a lousy bowl of tepid milk — and canned cow at that! You wanna make a deal, you better lay something tastier than just moo-juice on me. I dig T-bone steak, chocolate milk, cakes, candy bars, cheeseburgers and all like that

George, G.E. 1/C

P.S. Hold the onions on the cheeseburger. They give me gas.

"Holy hot rods!" gasped McBilt. "There really is a Good Elf!"

"I told'ja so!" yawned Fooch. "But I never knew they had ratings and all! Wonder if George is striking for Chief Petty Elf or sumpin'?"

"You don't suppose this note's a fake, do you?" McBilt stared at it worriedly. "I mean, maybe somebody overheard our conversation last night and they're putting us on."

"Nah," said Fooch. "I know a legit Elf note when I see one."

"How can you be so sure?"

Fooch tapped his chest, indicating the region containing his heart. "Sumpin' — right in here — tells me it's a genuine Elf note. Dig?"

"I think we're both going a little gah-gah in the gourd," whispered McBilt.

"Yeah, what makes ya so sure about that?"

McBilt tapped his forehead. "Something right in here tells me this whole gig doesn't make sense but, at this point, I'm just nutsy enough to keep it alive!" Gathering himself together with a mild shudder, he picked up the bowl of milk. "All right, tonight we'll really lay a feast on the feisty little character and see what happens!"

"Don't forget," said Fooch. "Onions give him gas."

"That's the word for this experience — a gas," McBilt carried the bowl inside the house, Fooch trailing behind him. "Only tonight I'm going to be there when George arrives!"

"He might resent it, man."

"Crazy!" said McBilt. "I've never laid eyes on a resentful Elf. It should be a night to remember and all."

Later, that night, after a long and busy session in the kitchen (during which McBilt's mother and father pestered him with impossible questions — impossible to answer because he could hardly admit he was preparing a feast for a greedy, talented Elf without causing them some concern), McBilt lugged the results out to the backporch once his parents had gone to bed. Carefully, he placed the hot food beside the Mustang kits. Straightening up, he regarded the spread. Next to him, Fooch peered admiringly at it, too.

"Gee, you got just about everything he mentioned in his note!" babbled Fooch.

"You even remembered to hold them onions!"

"If this doesn't do the trick," commented McBilt, "then, nothing will."

"What now?"

McBilt gestured at the doorway. "We hide behind the door. When I hear him starting to work, we open the door. I've even got a flash-camera loaded and ready for action."

"You don't think he'll get sore and refuse to finish the cars?"

"Were bigger than he is," said McBilt evenly. "He's outclassed. He'll finish the cars, all right. You can count on it."

Two hours later, cramped and tired from lurking behind the door as quietly as they could lurk without moving more than one muscle at a time, McBilt and Fooch stiffened alertly as a sudden, muted sound outside reached their straining ears.

"George!" hissed Fooch excitedly. "It's George, the Good Elf. First/Class!"

"Maybe," said McBilt, easing the door open.

"Well, it can't be the Avon doll calling on accounts she always uses the front door. She rings the doorbell and —"

"Will you shut up!" hissed McBilt, pushing the door open a bit wider. He squinted into the evening gloom. Another soft sound thudded from the back porch.

McBilt snapped the porch light switch — and the porch flooded with light, revealing a figure bent over the hood of one of the two, gleaming scale-model Mustangs. He wore a green little suit, green little shoes with curled-up toes and a green little hat with a crooked tip.

"Ye gods and gook man!" McBilt blathered nervously. "George is 1/25th-scale himself!"

"Golly, wot a little car!" bellowed Fooch.



They stood on the back porch, a large steaming bowl of milk and the car kits at their feet

George the Good Elf blinked in the bright light, turning his green little face toward them. "I forgot to tell ya — a whole cheeseburger makes me bilious but I always hafta scoff down the whole goodie, being a glutton by nature!"

"Lookit the keen job he did on them cars!" Fooch grabbed up a completed Mustang. "Man, it's beautiful! A real winner!"

"You finks got any Brosso around the house?" George belched delicately. "I like need some fast-fast-fast relief."

McBilt picked up the remaining scale-model car, studying it closely. "How come you didn't put the guide-shoe on it? I can't control it on the track without a shoe."

George burped politely behind a tiny hand.

"You just keep the juice comin', old buddy," George said, "And leave the drivin' to me! I've always wanted to be a Torpedo — and this is my chance! Dig?"

"You want to drive a car in the Contest?" McBilt's tone was undiluted astonishment. "An Elf tooling a model car in the Contest?"

"There any rules against it?" demanded George testily. "I mean, like exactly which regulation discriminates against us Elves?"

"N-None to my knowledge," whispered McBilt.

"Then, this is my big chance!" chuckled George. "Man, I'm ready for something else than repairing shoes and all! I mean, like it's not even a closed shop gig. No fringe benefits. No profit sharing. No paid vacations. Notbin' but work, work, work and one lousy bowl of moo-juice after another! I tell ya, man, I'm ready for the big prizes and every race I kin enter. I'll split everything down the middle with you creeps. A deal?"

"It's a deal!" yelled Fooch joyously.

McBilt had a momentary vision of the judges' faces as a Mustang driven by a fat Elf came screaming over the finish-line. Well, he thought, it comes under the heading of advancing the sport. "A deal," he agreed aloud.

"Let's get some sacktime, you guys," said George, yawning. "I'm bashed from building them bombs. I need sleep."

"Hey, George—" began Fooch thoughtfully.

"Yeah?" said a sleepy Elf.

"How are you with Tinkertoy sets and all?" Hope was shattered all over Fooch's face as he overblinded the question.

"Ask me in the morning, Dad," said George climbing into an empty kit carton and settling himself comfortably in the tissue paper and clean cotton cloths it held. "After a very huge and glorious breakfast. Dig?"

They dug.



From a simple set of knives and blades, the X-acto line has grown in 30 years to include modeling tools of all kinds.

It's mighty unusual for a firm to claim three decades of success in the hobby industry. The whole world of model making has changed so fast and so drastically that it's been virtually impossible for any one company to stay abreast of the field that long.

But X-acto, Inc., has. This year, the famed manufacturer of modeling tools celebrates its 30th anniversary of service to hobbyists. What began in 1935 as a set of knives for builders of balsa model airplanes has become a complete line of equipment for all model makers.

It all started when Sundel Doniger, a specialist in surgical instruments, noticed that the hobbyist had to use a razor blade or scalpel to carve balsa wood into a reasonable semblance of an airplane fuselage. There were no tools designed expressly for the job. To fill the need, Doniger developed a series of knives with interchangeable blades, the first X-acto knives for modelers.

He began with eight special-purpose knife handles and over 30 different, detachable blades, gouges, routers, saws and punches. Today, 30 years later, the X-acto line includes nearly every tool necessary for construction of prize-winning models of all kinds.

As the firm celebrates this milestone, let's pause and see just how far it's come. Let's examine its catalog for the items especially suitable for building model cars, beginning, of course, with the famous line of X-acto knives.

The most useful knife handle for modelers is listed, appropriately, as #1. It's a pencil-shaped aluminum unit about five inches long that takes most of the smaller X-acto knife and saw blades. The #1 comes with a #11 blade, a pointed style that's ideal for fine cutting and trimming and for getting into tight spots.

Other useful blades with the #1 handle are the #14, with a diamond-shaped point for straight, vertical cuts; the #16 for making small holes or notches; and the #17, a chisel-shaped design only 1/4 inch wide for narrow cuts. New in the line is the #13, a tiny saw developed for work with the type of plastic used in most model car kits.

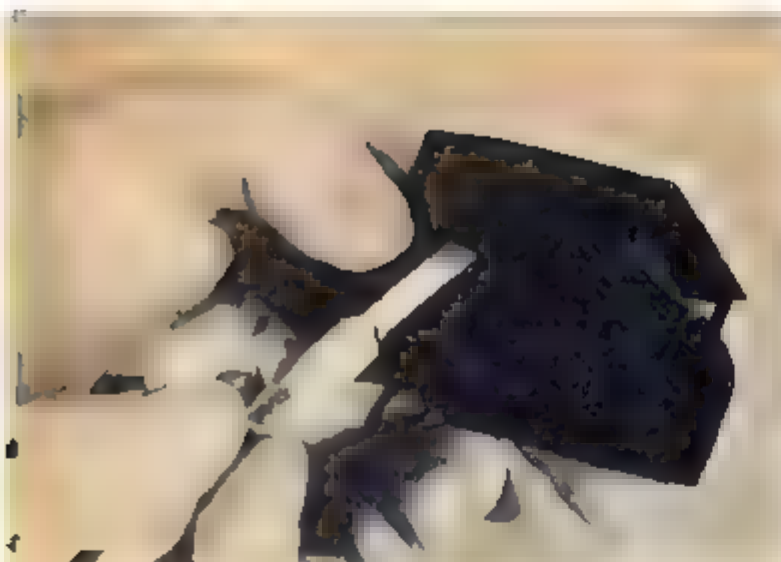
There are some variations of the #1 handle that should be pointed out. The #1-st is a #1 with a #11 blade in a handy storage tube. The #1-sgk is the same combination adapted to take a special plastic safety guard. Finally, the #1-m is a modified version designed particularly for use with the #13 saw blade.

Prices are 60¢ for the #1, #1-st, and #1-m handles and \$1.00 for the #1-sgk

MODEL CAR SCIENCE

Modeling Tools for Better Building

By JOHN LAWLOR & BOB WAGNER



The #13 saw blade is a recent addition to the X-acto line and is designed expressly for working with plastics.



Among the most useful blades for the #1 handle is the #17 1/4-inch chisel shape for making narrow cuts.

The safety guard for the last is another 40¢. All of the blades mentioned so far are 60¢ for a package of five.

Turning to more specialized equipment, the #4 handle with its own extremely narrow #4-b blade is great for scribing detail lines. The 5-inch, aluminum #4 costs 30¢ and #4-b blades are 10¢ for five. The #8 is the answer when a simple, straight cutting edge is needed. The #8 is a steel handle, 5-3/8 inches long, selling for 29¢, and takes reversible #8 blades, also 30¢ for five.

For heavier cutting, the #2, #5, and #6 handles are useful. The #2 is simply an enlarged version of the #1 resembling a fountain pen more than a pencil, designed for the bigger X-acto blades. The plastic #5 and aluminum #6 are 4-3/4 inch long units with a palm-filling design like that of a screwdriver handle. Both of them take not only the larger knife

blades but also X-acto's saw blades, punches, gouges and routers.

Of these, the #5 seems the most versatile. It's light enough to work with easily, yet big enough to take the whole line of equipment. Particularly useful for major cutting chores is the combination of a #5 handle and a #34 or #35 razor saw. Both of these blades have cutting edges 4-3/4 inches long and differ only in width: the #34 is 3/4 inch wide and the #35 a full inch.

The #5 handle costs \$1.20 while the #34 saw blade is 40¢ and the #35 is 45¢. Or you can have all three items packaged together as the #53 razor saw set for \$1.71.

That covers the knives and blades of greatest interest. But as far as X-acto's modeling tools as a whole are concerned it only scratches the surface.

For example, the company offers a fine set of files that any model builder can put to good use. The #360 universal file handle is 60¢ while the 60-s set of a dozen assorted interchangeable needle files is \$4.95. These have sharp, needle-like points that ease access into awkward corners of plastic car bodies.

Other options are the #60-st set, which consists of a handle and three different

files, for \$1.50, and the #161, with a handle and six files for \$2.50.

For those who do any customizing with putty or are especially fussy about smooth finishes, X-acto has several choices in sanders. The #41-st is a flat, 1-inch block selling for 30¢ and the #42-st a similar 2-inch unit for 75¢. But the real answer is found in the #351 set of five contoured sanders, each of them with a different head, for working on difficult shapes and surfaces. The #351 retails at \$3.95. Refill sandpaper for all of the sanders is 25¢ for five sheets.

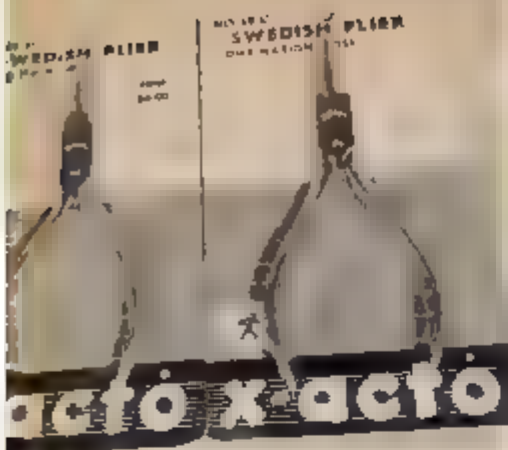
The hand drill and pin vise is another tool that belongs on any serious modeler's work bench. X-acto offers two types. The #21d-st is a 3-3/4 inch long, double ended design that accommodates both small and large drill bits, sizes 45 through 80, and sells for \$1.00. The #1d, #2d, and #3d are all 4-inch units with built-

For assembling tiny parts, a pair of self-locking tweezers, such as X-acto's #37, is absolutely invaluable.



A convenient and inexpensive hand drill and pin vise is the #21d-st, a double-ended design selling for \$1.00.





X-acto pliers really are Swedish. They are made in the Scandinavian land to X-acto specs. Six types are offered.

like handles for a firm grip; they differ only in the size of the drill bits they take. The #1d is for 80-60 bits, the #2d for 60-50, and the #3d for 53-44. Prices are \$1.25 for the #1d and #2d and \$1.50 for the #3d. The chucks are available individually for 75¢ each. And the handle with all three chucks is offered as the #32-d precision chuck set for \$2.75.

The X-acto drill bits themselves are carbon steel wire twist. A dozen of them in the 61-80 range sells as the #9-d set for \$3.60 and a dozen in the 45-60 bracket is \$2.50. For convenience, though the best deal is the #12d drill set stand, consisting of 20 drill bits, 80-61, in a plastic stand with a numbered place for each bit and an acetate cover. The #12d costs \$6.50.

X-acto has a handy little screwdriver set, the #70, which consists of an aluminum handle and five steel screwdriver blades, ranging in size from .040 to 100 inch, together with a wooden and plastic stand for easy but accessible storage. The #70 will set you back \$1.75.

Tweezers are essential for detail work and X-acto produces several that are ideal for model making. For wiring and other chores too fine for bare hands, the 4-1/2-inch #36 with medium points is a good bet at only 50¢. Others that are useful include the #319, a 5-inch, nickel-plated steel tweezer with beveled hardened points for \$1.00, and the #340, a 4-1/8-inch, stainless steel watchmaker's unit with very fine points for \$2.00. Working in tight corners is simplified with the #343, a stainless steel tweezer with its fine points bent at an angle. The #343 is 6 inches long and costs \$2.00. And assembly of those tiny little parts, that give a model real authenticity, is much easier with a self-locking tweezer, such as the 4-1/2-inch #37 with sharp



For super-smooth finishing, X-acto offers the #351 set of five different contoured sanders in a plastic stand.

points at 65¢ or the 6-1/2-inch #38 with blunt points at 70¢.

For emergency use as tweezers and for holding pieces in place while glue is setting, #256 self-locking, cross-action clamps are invaluable. These are 10¢ apiece or 30¢ for a set of three.

A pin point oiler carries the unlikely designation #0 and should be appreciated by slot racing enthusiasts. Perfect for lubricating tiny bearings, it costs a mere 75¢.

Last but far from least on X-acto's list for car modelers is its line of pliers. These, interestingly, aren't made in this country. When the firm decided to add pliers to its catalog, it discovered that they could be produced more easily and cheaply in Sweden than here in the United States. Yet they would be of the highest quality, made of top-grade tempered Swedish steel.

There are six types altogether, all of them featuring box-joint jaws that can't work out of alignment. The #54 is a long nose, side cutting plier selling for \$4.50; the #55 a diagonal cutting type for \$4.00; the #56 a flat nose ideal for square bends in wire for \$3.50; the #57 a snipe nose for rounded bends for \$3.50; the #58 a combination nose, with both a flat jaw and a snipe one, for \$3.50; the #59 is another long nose and costs \$4.00. Add a "p" to the serial number of any of these and 25¢ to the price and you get it with plastic, cushion grip handles.

The #55 through #59 pliers are also available as a complete set, #1500, for \$18.50. Or, if you want to be really fancy about it, they can be had gold plated in a set, #2500, for \$25.00.

Throughout our survey, we've noted that X-acto packages sets of particular tools. You can get assortments of knives



Cross-action clamps can serve as emergency tweezers and are helpful in holding freshly-glued parts together.



An assortment of a dozen different needle drills, mounted in a wooden stand, forms the #60-a file set.

The "Roto-Rack" is the latest in the company's pre-packaged tool sets. With the tools shown, it's \$7.95.

or of files or sanders or drills or pliers. The company also produces combinations of different tools, from modest carving kits to complete hobby workshops. They range from the #51-st, a simple set of a #1 knife with five extra, assorted blades for \$1.20, to the magnificent #89 knife and tool chest for \$35.00 which includes at least one of everything we've described, along with a host of items we've overlooked because of their limited interest to car modelers.

There are three sets especially tailored for those who build miniature automobiles. Customizers will appreciate the #373 customizing kit, a \$5.50 combination of #1 and #5 knives, razor saw, #21-st hand drill, pliers, tweezers and files. For slot racers, there are two special combinations. The #74 pit kit at \$2.95 includes a screwdriver, self-locking tweezers, plastone abrasive, bristle brush, needle file and pliers. The #73 deluxe pit kit at \$4.95 adds to the items in the #74 a #1 knife, pinpoint oiler and special track cleaning fluid.

Brand new on the scene is the "Roto-Rack" revolving tool stand and kit that comes with a #1 knife with safety guard, #5 knife, razor saw, file handle and files, pliers and an assortment of knife blades, routers and gouges. The "Roto-Rack" sells for \$7.95.

X-acto, Inc., has come a long way from that set of knife handles and interchangeable blades introduced 30 years ago. Today's line, as we've seen, includes a vast array of modeling tools and equipment.

And tomorrow's will be even more varied. Right now, the firm is preparing a precision jeweler's saw, a jeweler's snip and a tinner's snip for introduction during 1965. These and other future items will add still greater versatility to the modeler's tool chest.

As the company has grown during the past 30 years, so it plans to meet the challenge of tomorrow in the wonderful ever-changing world of model making.

This 30th anniversary report on X-acto, Inc., is the first in what the editors of MCS hope will be a continuing series of surveys of leading producers of model car tools and equipment. Watch future issues for reports on other manufacturers.

A precision jeweler's saw is among the new products X-acto will introduce for modelers during the 1965 season.

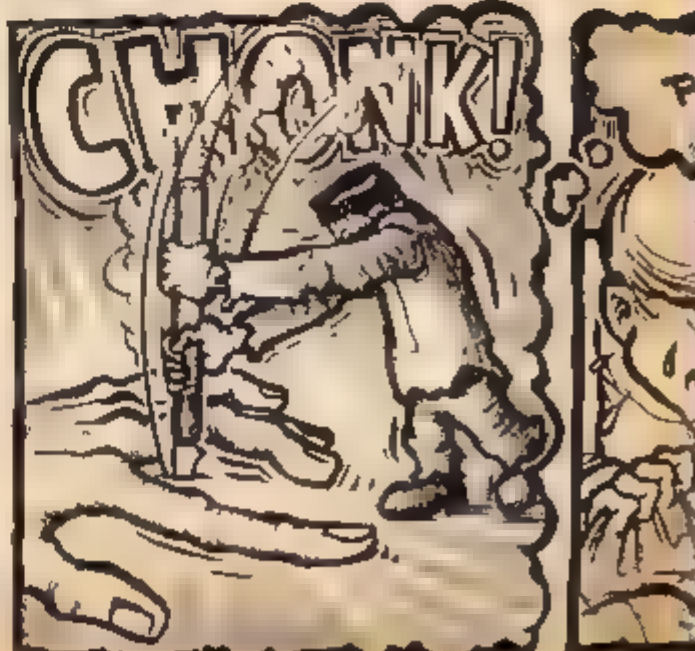
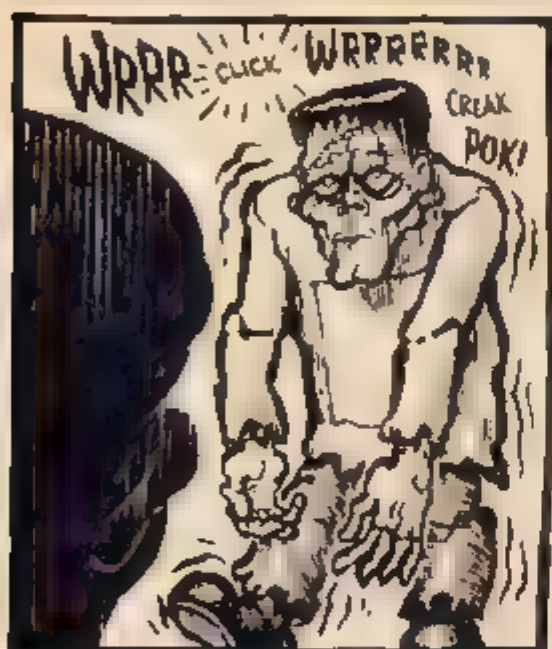
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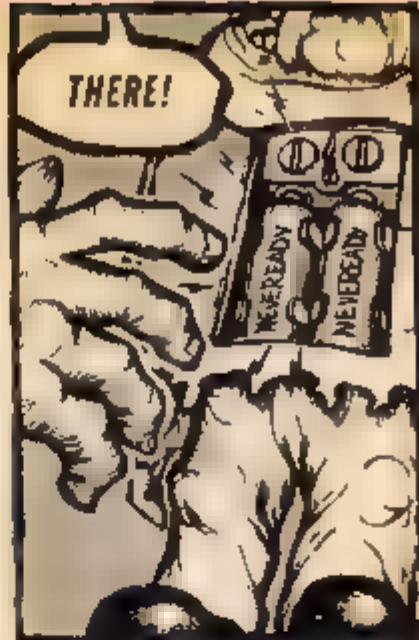


KIT CARSON

STORY: *Chuck Altizer* ART: *Ed Newton*

THIS IS 100% NEATER
THAN BUILDING OL'
CAR MODELS!





MODELING MOTORCADE



OUTSTANDING CARS OF THE WORLD

From the vast number of photographs shown in Modeling Motorcade, we have at times been able to trace and predict coming trends in modeling popularity. Since this feature covers the entire United States, no local trend is apt to be felt to any great extent.

This month's selections balance out to what is about normal for the Motorcade or what you would find in any open modeling contest. The majority is made up of street customs and competition machines.

There still appears to be a shortage of "woodies." These, up to now, required considerable scratch building to complete, as do the experimental and dream cars, but the new "woodie" kits should cure this situation.

In painting, the trend is still with metalflakes. Now, however, we find many with a mixture of various flakes as well as candies, and the results are very original, and in many cases very striking. Even a stock model will be an eye stopper with an exotic paint job that is well done.

John Behm is only 12 years old but his work sure looks like he has had lots of experience. His Draggen '57 hard top has a blower 409 installed.

The popular Willys coupe excellently detailed on the interior as well as outside by Lunatic, Michigan member Tomas Shea. Finish is in candy blue.





A customized '57 Ford by Tony Jakubowski, features swivel bucket seats and an extended and resurged rear end. Both doors and hood are hinged, interior is upholstered.

Another Vicky, this one by Dave Parsons. The rear fenders are bobbed, Magna installed all around and a big blown Olds for power.



Astec gold metal flake sets off this neat Ford Victoria which has the big 427 Ford engine for power. The proud owner is Eugene Smith.

This one is about as long as it is wide, but sure makes a nice little model. Scott Truendell used a Black Widow body removing the pick-up bed, and a blown Chevy from the Moon Eyes dragster.





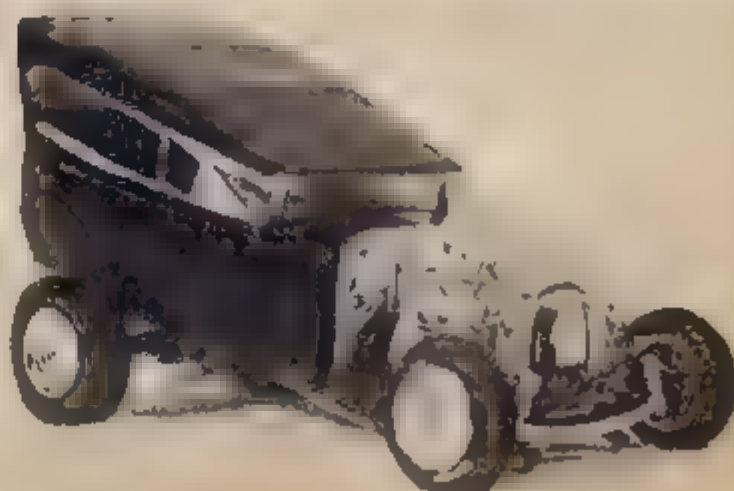
The Edsel never looked as good as it does in this fine custom by Edmond La Conte. Some parts of a '57 T Bird were used in the change.



A chopped, sectioned and shortened '32 Vicky, by Milwaukee modeler John Anspach, mounted on an all out dragster chassis.

The all chrome engine and chassis that supports John's cut down Vicky body shows hours of tedious work.

A "T" Tub with a rake, this one by Rick Rudy contains a Buick engine and a purple paint job, with a white interior.





A show and go dragster by Bill Lucas. Body is entirely scratch built and finished in a bright yellow. It has a chrome dash and a working seat belt.

On this one the engine gets the bubble and the people sit out in the breeze. Sheldon Cousins is the builder



The '49 Mercury by Ross Collins is fully detailed and includes a big Pontiac engine. It is painted a Royal blue with Scarlet interior



Just look what Jim Furst has done to his '50 Ford: Top chopped, body sectioned a scale 4 inches. Doors, trunk and rear wheels wells were opened

Changes on this '57 Chev. include custom front and rear grilles from a '57 T-Bird. Top has been chopped and rear windows altered by Leonard Himes.





Care for something different? This body is all scratch built from small pieces of sheet plastic by Ken Browning.



This one is used on the local drag strips by its builder, Reg Chapman, who lives in Essex, England. Body is a chopped Dauphine and has an injected Buick up front, but real power is a Patman 704 installed at the rear.



Alon Pogorzelski builds this Double Dragster. It has a front fin, fully wired engines, and "mini-man" driver (with a fire proof suit) installed.



A mild custom using a '59 Pontiac. The front and rear pans are rolled and a '61 Ford grille installed. The trunk contains a set of spare equipment.



TABLE TOP RACING SECTION

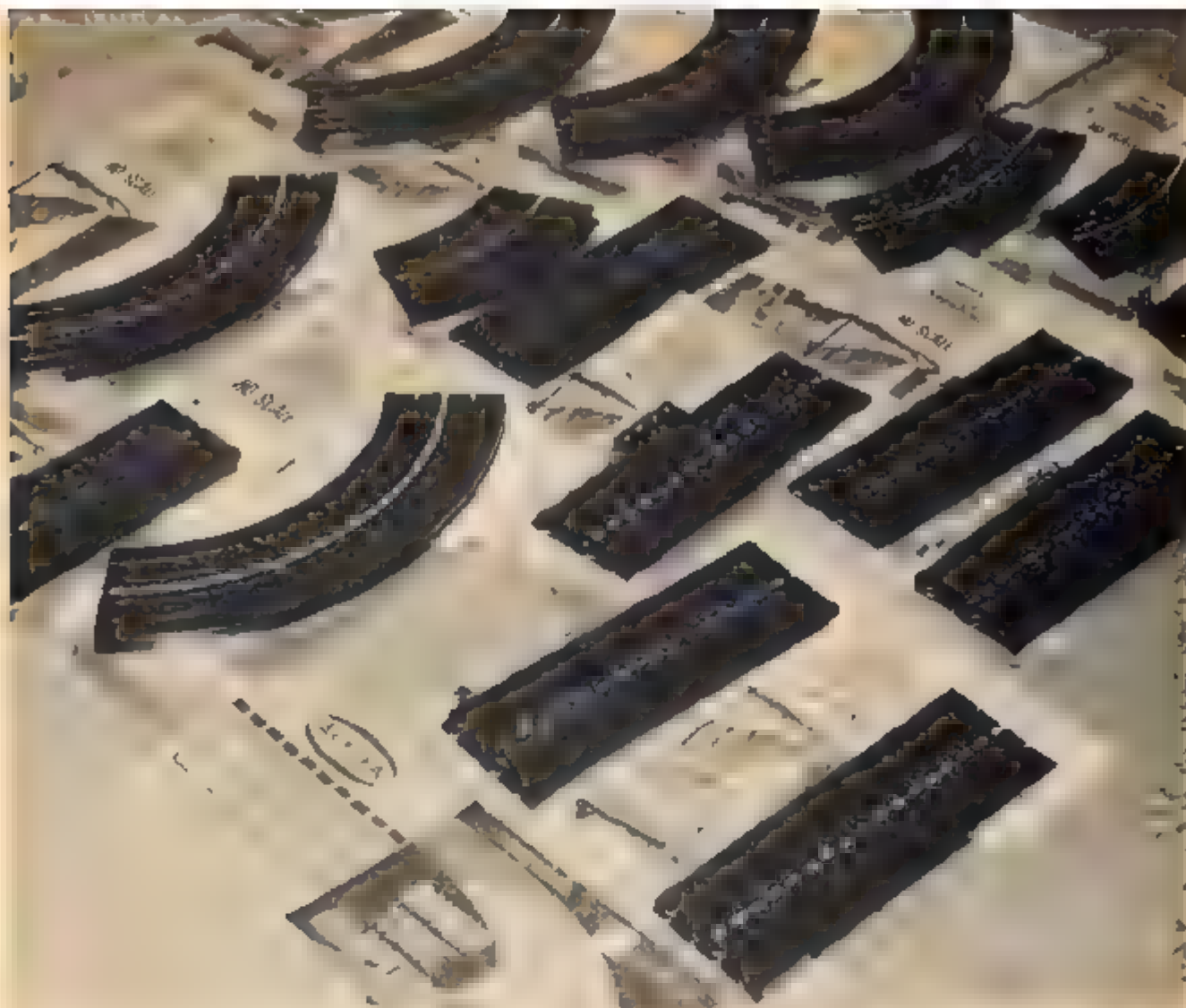


PHOTO CONTEST

Each month Model Car Science will award valuable prizes to the readers who submit the best photos of slot racers in action. Send your photos to Table Top Photo Contest Model Car Science, 171 Barrington Pl., Los Angeles 49, Calif.

THIS MONTH'S
PHOTO CONTEST
WINNER IS

R. L. ARMBRUSTER
1960 REGAN AVE.,
COQUITLAM, NEW WEST
B.C., CANADA



Although this looks like quite a bundle of track sections, it barely proved to be enough for the rough outline of the track. Many more draught sections were needed for the final design decided upon.

Designing an HO Super-Circuit

PART II

By Raymond E. Hoy

Frankly, when I started this series last month, I intended to use my four lane Aurora set for the basic layout. The more I have thought this over, however, the more I realize that it would be an injustice to the thousands of owners of 2 lane HO sets. In the interest of these enthusiasts, I have purchased two lane equipment instead, and this series will be dedicated to the building of a two lane layout.

I didn't really have any particular layout in mind when I started this whole thing, so I didn't exactly know how much track to buy. I came out of the hobby shop with an arm full of curves and straights, and when I got home, I counted it. It seemed like a lot of track, to a

guy used to 1/32 scale.

I had six cards of 9" straights, 1 card with a 9" terminal straight, 5 cards of 9" radius curves, (1/4 circle) 2 cards of 9" radius curves, (1/8 circle) and 2 cards of 12" radius curves (1/8 circle.) I really didn't think I'd have room enough for all the track on my table. What a novice! When I finally got the track spread out I found that I barely had enough to cover one 8' x 4' sheet, let alone the other leg of the "L" shaped table! What a shock. I dashed out and bought 13 more pieces of 9" straight, one piece of 7" straight and one short 5" straight. Armed with these I shuffled track around on this table until my head reeled, and late that night I staggered off to bed. I had what I wanted however.

The track has a crossover, to equalize distance, and I believe it has a novel shape which should provide interesting

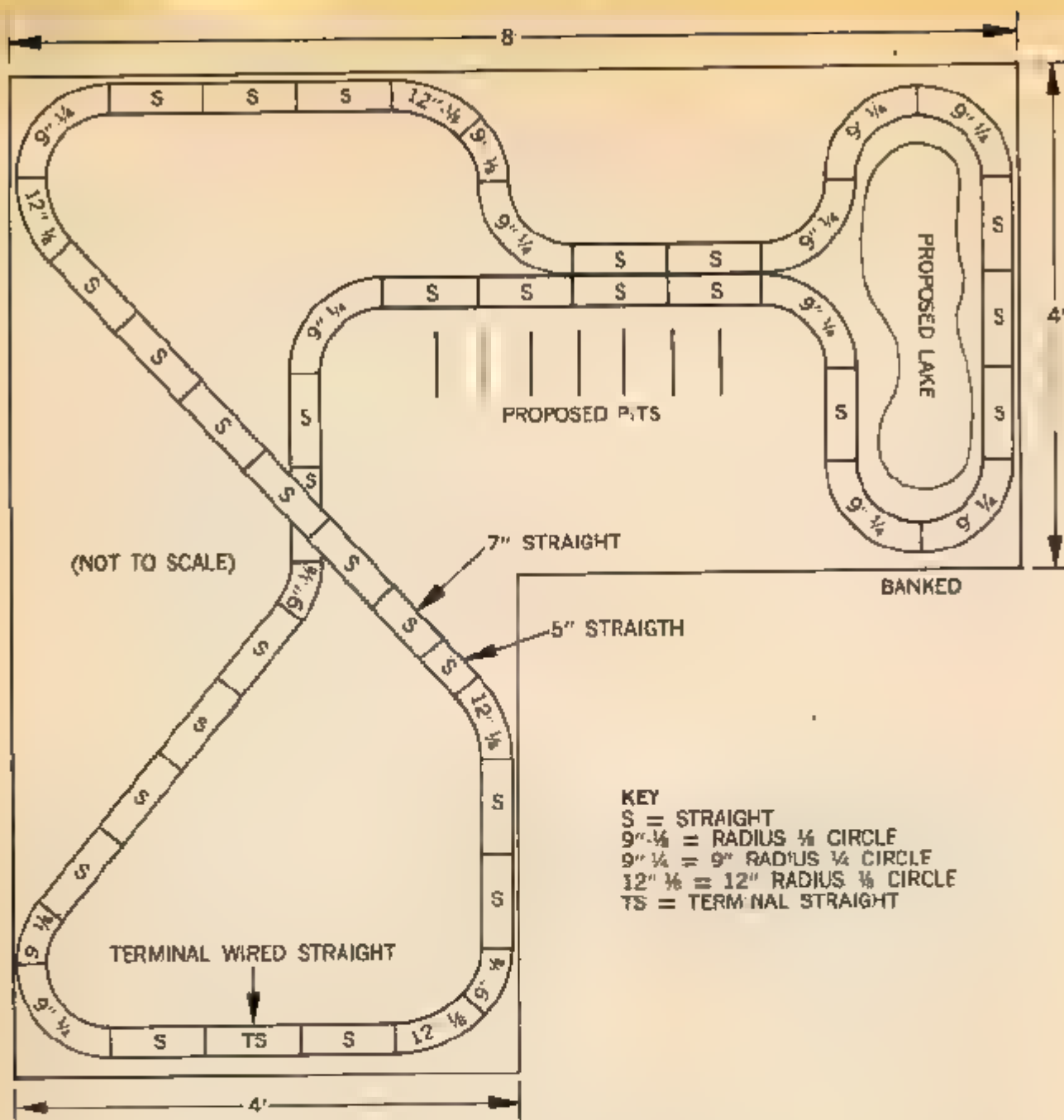
racing. I used Aurora banked curve adapters on one corner only.

The parts list for track sections is shown below:

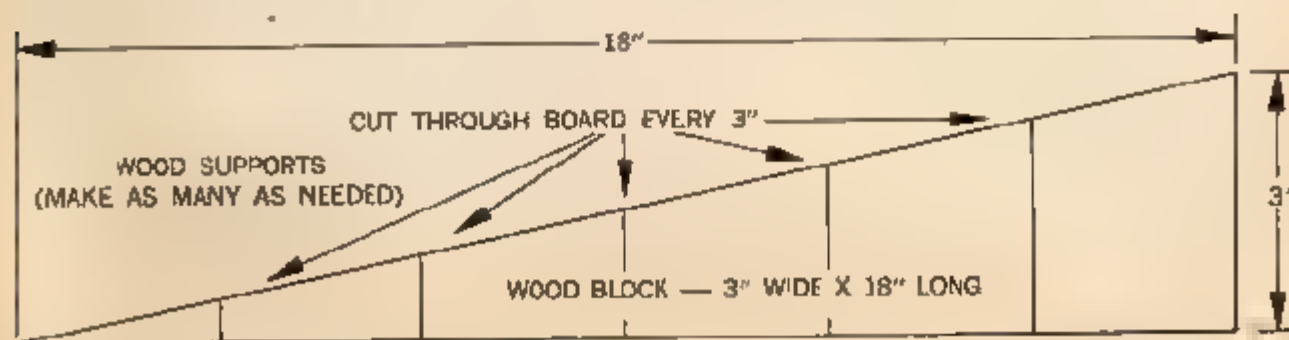
- 26 pieces of 9" straight
- 1 piece of 5" straight
- 1 piece of 7" straight
- 1 piece of 9" terminal straight (For hooking up the wiring)
- 10 pieces of 9" radius curves, (1/4 circle)
- 4 pieces of 9" radius curves, (1/8 circle)
- 4 pieces of 12" radius curves, (1/8 circle)
- 1 box of banked curve adapters.

Several boxes of 5/8" long, No. 5 flat-head wood screws, to mount the track securely on the roadbed.

Lay the track out as shown in the drawing. The drawing is not to scale, and it is used merely to show you where to insert each piece of track. Make sure you



To make supports to raise the track, cut a 3" wide board to shape shown below. Then cut apart — each final piece to be 3" long. Space about one foot apart on actual track.



SIDE VIEW — NOT TO SCALE

After much shuffling around, the sections were finally fastened together, using the conventional Aurora connectors, and the entire design wound up looking like this. Nothing is fastened down.

have the final track layout exactly where you want it before you screw it down.

You must cut the wood crossover supports to approximately the same dimensions as shown in the drawings. This gives a nice, gradual climb in elevation, until the track reaches its maximum height of about 3" over the crossover point.

The entire track will be contoured with scenery in the fourth installment. The next, and third part of this series will deal with wiring the circuit. We will have pft lights, a bubbling brook that is powered by a small water pump wired into our circuit, a master control center jackbox with reversing switches, and all the niceties that you would normally find in a larger 1/32 scale outfit. See you next month.



The crossover starts climbing to its full altitude many feet on each side of the actual crossover point. This lets the track gain higher elevation without straining any section of track, or interfering with ground clearance on the cars.





The location for the pit area, which will be constructed in part four of the series.



Aurora banked curve adapters were used on this corner, which I nicknamed "George's Gyro." This is the only banked curve in the entire course. It makes the course sportier and reduces monotony.

You can very easily meet yourself coming and going on this particular section of road. There will be a shallow lake nestled inside this loop, which you will learn how to build in part four of this series.

When you finally decide that everything is positioned correctly, drill small diameter holes into the plywood table top, through the holes in the plastic track. Use 5/8" long, No. 5 flathead screws.



Sting Ray Racing

PHOTOS BY PHIL GLICKMAN



By NORM ROBERTS

GENERAL MOTORS removes the restriction on competition. Chevrolet to build a brace of prototype Stingrays. Special models now undergoing shake down testing at G.M. proving ground before entering open competition. Headlines such as this would sure stir up the sports car world and would be a welcome bit of information to the enthusiast interested in competition. But before you become too enthusiastic on the subject, it's all a dream.

Once upon a time (as all good fairy stories should begin) I had just finished reading the latest issues of the sports car magazines. Many words were written praising the efforts of the Ford Motor Co. for the numerous events in which they have entered a wide variety of cars. Along with the praise for Ford, usually a word or two bemoaning the fact that General Motors still has the lid on any type of active participation in competitive events. This started a train of thought on the highly imaginary theme expressed in the headlines above. Just what would be the path taken by a group of performance oriented engineers if given the chance to develop an all out contender for top honors on the race courses of the world? So we let our imagination run wild on the subject and the results are as follows:

First of all, let's start with something that can be assembled quickly and be used as a test bed for gathering information under competitive conditions.

The Mecomb racing team proved last year at Nassau, that Stingrays can be very competitive with proper preparation, and a minimum of major changes. The most obvious one being the installation of very wide base rims and low profile tires. The additional width gained in tread and overall dimensions required some trimming of the wheel well cut-outs for proper clearance. F.I.A. specifications require the major portion of the tire be within the body lines, so fender lips had to be added in somewhat the same manner as the racing Cobras have. While adding nothing to the appearance of the car, it does bring it within the limits imposed by the governing body.

The first segment of our competition program car, number fifty-one, would be prepared in somewhat the same manner. All of our cars are in 1/32nd scale and use the Revell '61 Stingray as a base. This one will follow the normal assembly procedure. The only chassis modification required is wide base rims and slicks of your choice. The body can be updated to the current model in most respects by filling in the false grille openings in the hood and removing the center bar in the rear window. This will require the use of flat clear stock for the rear window

Why not add the finishing touch to your group of slot racing cars with a group of personalized Grand Sport Sting Rays?

to avoid the depression in the insert furnished in the kit.

As long as we are adding a flare to the side panels, take advantage of the maximum allowable tread width which is two and three-eighths in this scale. Set the outside face of the wheels to this dimension. Adjust frame to proper wheel base and install in body. Then remove body material until all wheels have adequate clearance. The chassis can then be removed and fender flares built up. These will become the widest part of the body, and as such will take their share of thumps on the track, so they must be well made and attached to the body panels.

Two methods have been tried with about equal results. The first entails fitting and gluing numerous small bits of scrap plastic around the edge of the wheel opening. These should be filled to a wedge cross section with the thickest edge installed at top and bottom where the greatest amount of added material is required. After two to three layers of material have been added, the top and bottom should be even with the break line of the body and the face of the

MODEL CAR SCIENCE

Stable

Try these exclusive M.C.S. designs for a team of sports cars based on one of America's best, the Corvette!

material should be filed flat and even thickness stock can then be used to complete the required thickness. Allow this assembly to dry for a day or two before shaping as the amount of glue used will soften the plastic.

The second method is to make up a number of washers of flat sheet stock. All of them should have an inside diameter equal to the reworked opening in the body. The outside diameter of each washer added should be progressively a bit larger to have material to blend into the body side panels. When a stack of sufficient width is obtained, file the face of the larger ones to fit the side panel contours and glue in place. Check the location, fit and clearance with the body installed on its chassis. Allow to set overnight and then shape exterior to blend into body panels. Properly executed, a minimum of body putty will be required to fill small imperfections. Alternate methods can be used as described in previous articles in M.C.S. (See August

Continued on next page



Warm up laps on the track. The two rear engine cars are on the front lane. The conventional cars are on the rear groove.

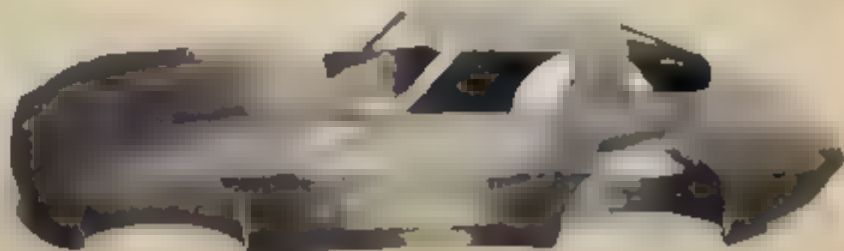


Easiest method of building up material for fender flares: Add layers of scrap plastic until a flat outer edge is obtained by filing.



Alternate method is to glue rings together and then shape to body contours. Wedges should be used at lower edge.

Number 51 all primed and ready for paint. Blending the added material presents a much more pleasing appearance than the flat projections usually used for the modification.

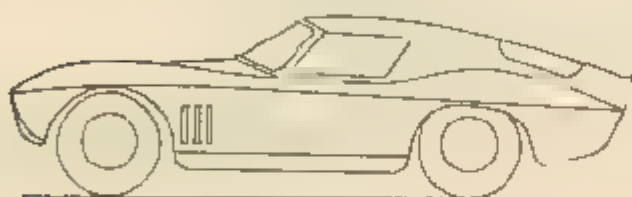




STOCK



#51



#52



#53



#54

'64 Buick Wildcat and September '64 Buick Wildcat Grand Sport).

By blending the added material into the side panels, a much more pleasing form will result as well as eliminate to a slight extent some of the air drag the sharp projecting fender like additions would cause.

The side pipes installed are from the Revell '57 Chevrolet kit. They must be reformed to fit using the heat from a wood burning or auto cutter tool.

This model would be used on the many short courses found in the United States during the period of design development for subsequent models and as a source of information to be used in those designs.

As our development program is to construct an all out competition car able to hold its own with the best the world has to offer, under any and all competition conditions, it will require many interim designs. As we progress towards our goal, it will require further deviations from the standard model used as the foundation of the project. Of course Chevrolet should wish to realize some return on their investment in such a project such as prestige, product identification, advertising and a competition image. To this end, they will require that the project maintain a family identification with the parent line to realize the optimum return on their investment. This restriction will influence exterior design styling to some extent on future models in our program. They will be basically identified with the current Wildcat and appear to be a product of evolution. If an entirely new concept in body design were to be used, it would lose its family identity and association with the normal street version, which must be maintained.

The number fifty-two car will encompass design changes in both chassis and body, resulting in better performance at high speed. This would be accomplished



Selecting a proper contour for the fastback on car fifty-two. Trim rear deck as shown to eliminate all excess material.



Laminations as shown are glued to shaped side panel. This allows sufficient material for shaping as desired.



This one begins to take shape after preliminary filing of excess material. Laminations described are visible at rear edge.



Filler is required to add a radius for blending into the fender area and for a perfect match with the original roof lines. Rear window is enlarged later.



New front end for #52 consists of a lower rear panel with sides trimmed to clear front wheels. Opening is made to accept a cut down grille from the original front section.



Lines indicate first saw cuts required for the third version. Area removed from front section is indicated in white.

by improved air flow around the entire car, which would reduce the drag coefficient. With this model we will assume that suspension changes have been made allowing the use of wide base wheels and tires without adding to the width of the car. This will eliminate the side flares of the first car thus helping air flow. The fastback addition to the coupe follows the Kamm Theory currently used by the majority of competition car designers as a means of reducing air drag. The low pressure area of turbulence behind the car can be further reduced by exhausting all the entrapped air from the underside of the body and fender wells. This is the reason for the vertical slots and holes appearing on the rear section of the body.

Rounding off all the sharp edges at the front and induces a better air flow around the car and large ducts direct fresh air at the brakes for cooling.

The addition of the fastback may look like a lot of work but it really is quite simple. It is accomplished with nothing but flat sheet stock. First remove the entire rear section of the top. Determine the basic line you wish the top to have. Make two side panels to fit the deck lid contour and the rear edge of the top.

glue in place then add thin strips of plastic on the inside and finally a flat section in the middle. When this assembly has had time to set thoroughly it can be contoured to match the original section of the top. The shape from there to the rear end will depend upon you and what is pleasing to your eye. Be sure and



make the rear window large enough for rearward vision. When exterior contours have been finalized, excess material should be removed from the interior to reduce weight.

The revised front section is made from a lower rear panel section. The grille opening is made from the original front section. Remove all material around the original grille opening to the edge of the radius around the opening. Now section the part remaining both vertically and horizontally to reduce the size of the opening. Glue the remaining four parts that result from the cutting into a

Amount that windshield section is moved forward is indicated by overlap of two sections. File the edges of saw cut smooth, then scribe around edge.

Area removed from front section is filled with small bits of scrap plastic and then reshaped. When contours are acceptable, excess on inside should be removed.

Doubler and new deck section ready for installation. A good fit is desired as the seam should not show when completed.



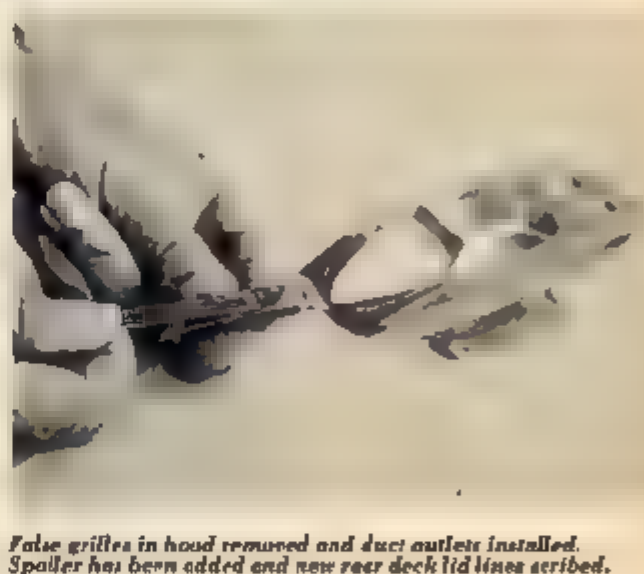
Doubler fitted to inside rear section, extends into opening sufficiently to hold filler section.



Recontoured corners of front section. Doublers added to strengthen windshield joint. Deck filler and doubler are also installed.



New side sections of top and rear window installed. Top edge extends above old roof line and forms support for spoiler.



False grille in hood removed and duct outlets installed. Spoiler has been added and new rear deck lid lines scribed. Rear panel grille is from the custom Revell '57 Chevy.

smaller unit, then cut an opening in the rear section that has been installed at the front and glue the new smaller air opening into place. Cut air duct openings on either side. Blend all contours and the hard work is complete. As in the first model, you will have to remove the rear section of the glass and use flat sheet stock in its place for your rear window section.

Our third version (number fifty-three) is where the big break occurs with the conventional concept of the Stingray. With this model, a complete new design from the ground up occurs. Chassis design from the inception is for performance, with no compromise for produc-

tion reasons. Some body panels will be stressed as load carrying members in the interest of light overall weight.

Following current design practice, the engine is now installed just forward of the rear axle for better weight distribution. This type of a layout is not too far fetched if you can remember the so called research car produced a few years ago by the Chevrolet division called Cerv. I. This same basic mechanical layout updated and incorporated in a GT type chassis embodying the same type of body design as used so very successfully by both Ferrari and Porsche during the last year.

To maintain styling requirements, the

body shape below the belt line remains basically as stock on our model, with most of the revisions made in the cab and front section. Referring to the photos, you will see that the entire cab section is removed as indicated by the lines. The front section, including windshield and top, is re-installed in a forward position, after cutting away the excess material in hood to match the leading edge of the windshield cut. Before gluing the windshield section to the body, gently heat the base of the windshield posts and bend backwards a few degrees; then heat the top of the post where they join the roof and bring the back edge of the roof up until it is again

MODEL CAR SCIENCE

level. This will give the windshield a greater slope and reduce the overall height.

The rear section of the cab is discarded after cutting away. File the edges of the body opening that is left after cutting to a smooth joint will result when the new panel is installed. Cut a doubler of sheet stock that will fit the inside rear section of the body and allow about one-eighth inch projection into the middle. After this has dried, cut a piece of sheet stock to match the area to be filed in. Match the edges of the filler piece to the body edge to eliminate a lot of putty work to cover the seam.

After the new rear deck filler is installed and any imperfections filled, the cab can be completed by making new side panels and rear window section. The new side panels must be inset into the top which will require the removal of the side edge of the top to almost the

door line, for proper fit. Before gluing them in place, make the rear window section. This is of flat stock contoured to fit the rear deck and top and to match the angle of the side panels. Then cut a rear window approximately as shown in photos. Be sure and leave excess material on the top edges of the side panels as they extend slightly above the roof line to form a mount for the spoiler that extends across the back edge of the roof. There is approximately a 1/16th inch gap between the spoiler and the roof. It is made of sheet stock and has a slight airfoil section. Radius the front edge and then the rear edge before cementing in place.

Now to the front end of our car, referring to the picture showing the cut lines, you will see the entire corners of the front are removed as indicated in white. Fill in the voids with small pieces of scrap plastic. This can now be reformed into a smoother, more rounded shape as shown. The sides can have more taper towards the bottom which will expose the tire somewhat for better cool-

ing. The fake hood grilles are also removed and duct outlets for radiator cooling installed. Body side panels are removed just behind the wheel wells to help remove entrapped hot air in these areas.

At the rear, a large opening is made to eliminate heated engine compartment air. The grille installed is from the Revell '57 Chevrolet and is cut down from the optional tubular grille.

A slight amount of material may be removed from the mounting posts of the body to lower it as much as possible and still maintain tire clearance. Do this before installing the threaded brass inserts in the posts. You are now ready for finishing on this one so we will move on to the next car.

Model number fifty-four does not have any association with the TV program, but is the next logical step in our progression towards the ultimate in a competition machine. Mechanically it would be a refined version of the preceding car. Body lines would be changed to improve

continued on page 58

After windshield section is removed for car #54, it should be moved forward about 1/2 inch, as shown on right.



Wheel clearance is obtained by cutting fender and installing a wedge. Add doublers to outside. Lines indicate cuts for lowering hood and windshield position.

Use frame to hold body top section in alignment during all the cutting and reshaping operations. Material may be removed in doubler area to obtain wheel clearance.



Total height of the cab on car fifty-three and four is reduced by heating windshield posts and reforming. Stock on left, reworked on right.



The lowest and shortest overall is car 54. Frame mounting bracket is shaped and glued to top section of body. Rear panel is split and moved forward as shown.



Product Profile:

K & B's NEW CAR KITS

When K & B Manufacturing decided to produce a complete racing car kit they kept four basic requirements foremost: simplicity of construction, trouble free operation, simple periodic maintenance, and sufficient detail to please the sophisticated builder. In order to satisfy all these requirements they produced a completely new car from pickup to decals. Judging from the kit we assembled, they have a tremendous success! This kit is so different from the run-of-the-mill kit that it must be discussed item by item!

PACKAGING & CONSTRUCTION

The first thing that strikes the eye, after opening the colorful box, is the display of parts. The one piece body shell, motor chassis, wheels and tires are all there for you to examine and all are sealed in plastic so you are assured of getting a complete kit with no missing parts. The instruction sheet gives step-by-



The all new K&B Ford and Cobra G.T. car kits in 1/25th scale are designed for slot racing and packaged to show all the components they contain.

step information with exploded view drawings indicating where each part must go. Full size drawings of various screws, nuts and spacers are shown so you can match the correct sizes. A motor specification sheet is also included giving information on motor performance, maintenance and gear ratio changes.

MOTOR

The K & B Challenger motor is one of the first designs specifically engineered for model cars. The three pole armature, face plate commutator and dual Alnico V magnets provide an extremely high standard of performance. The motor can be quickly disassembled by merely snapping off the axle retainer and the two copper end clips with a screw driver. This allows quick access to the commutator

for cleaning and to the plunger type brushes should they need replacing. The motor side plates and axle bearings are a special nylon-fiberglass compound. Alternate gear ratios (2.67:1 is standard) can be purchased in 2.14:1, 3.4:1, and 4.5:1 ratios.

CHASSIS

The chassis is a three piece precision aluminum stamping incorporating a spring loaded "drop" pickup arm which maintains positive electrical pickup on even the roughest tracks. The chassis is fully adjustable to fit nearly any 1/25th scale sports, G.T. or Grand Prix body.

WHEELS AND TIRES

The wheels supplied in the K & B kits are all new machined aluminum. A small



Even a wrench is included in the new K&B kits so all you need for assembly is a screwdriver and a pair of scissors. Detailed instructions are in each kit.



The Challenger can be disassembled with only the use of a screwdriver. End plates snap off as does the axle retainer to allow access to the brushes and commutator.



Only about 90 seconds are needed to assemble or disassemble this new motor. It offers interchangeable gear ratios and nylon bearings for higher speeds.

ridge inside the wheel provides a seat for the wheel insert leaving room for lock nuts both inside and outside the wheel. The wheels have a realistically contoured edge that accurately simulates a full size wheel. The chrome plated plastic inserts are a work of art. Upon careful examination you can actually see three distinct layers or depths of spokes. Extremely realistic! The tires are molded from a special racing rubber compound. Quality is extremely good with no mold marks or excess rubber visible. The tires even have the unique tread design of the Goodyear racing tire duplicated in 1/25th scale.

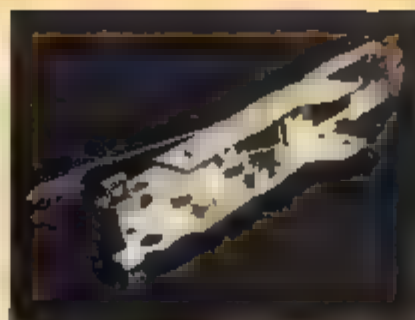
BODY

The K&B body is a one piece shell molded in white plastic with the clear plastic windows molded in. No more glue-meared windows here! The interior, driver's head, rear body section, and front body section are also molded of white plastic. The driver and interior must be painted and glued in place. The front and rear sections will also have to be glued into the body. Chrome headlights, a one-piece chrome tail light, exhaust pipe unit and clear headlight lenses are final details. The decal sheet provided with the kit includes the blue colored area on the hood, the racing stripes, racing numbers, and advertising decals. Absolutely no painting is required on the outside of the body.

GENERAL NOTES-

The entire car kit from the smallest screw to the one-piece body shell fits together perfectly. This, coupled with the many unique component features, is the mark of a well engineered, race proven product. The only faults encountered during assembly and test running were the front and rear axle bearings and the body height. The bearings were too tight, however, a few strokes with a round jeweler's file soon corrected this. When the car was completed the body shell was about 1/8th inch too high, but, it was a simple matter to depress the brass body mounting lugs another 1/8th inch into the body by heating them with a soldering iron. All-in-all, the new K&B cars should prove a delight to the 1/25th scale enthusiast. The cars are fast, rugged, and simple to maintain. What more can you ask?

Completed Ford G.T. in an exact 1/25th scale copy of its full size counterpart. Exact detailing provides a realistic racer, ready to please the most demanding.



The K&B frame is fully adjustable for wheelbase and track. It will fit the narrow 1/25th scale G.P. plus any sports or G.T. body.



Finite detailing includes the proper tire tread pattern. K&B tires have no pieces of mold flash to be cut away. Wheel inserts show three depths of spokes.



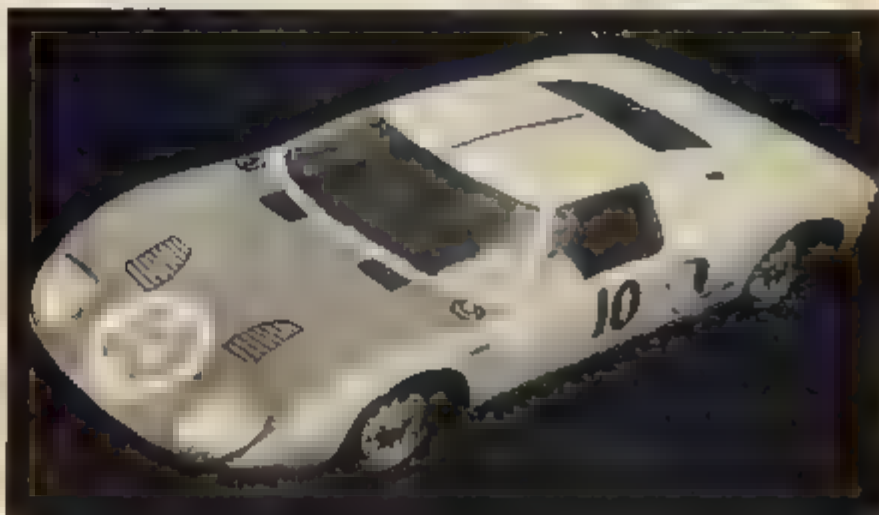
The assembled K&B chassis to fit the Ford G.T. Every piece in the kit fits together simply and correctly resulting in an extremely fast and reliable chassis.



Even the windows are molded in K&B's one-piece body unit. Only minor trim details, shown on the right, need be added to complete the body.



The Ford G.T. decals include the component advertising, a choice of racing numbers, racing stripes, and the color area for the hood. Driver and interior require painting.



MODIFYING THE

By Raymond E. Hoy

THE NEW MONOGRAM KITS, in either 1/32 or 1/24th scale, are without a doubt the finest production kits on the market. In their price range they stand head and shoulders above the nearest competitors. They are easy to assemble, sensible in design, very fast, and completely vibrationless. In short, a modeler's dream. To top it all off they are very reasonably priced.

A stock 1/32 scale Monogram kit, such as the Cooper-Ford, which is the subject of this article, holds its own very well against some very spirited competition. Against other stockers it does exceptionally well, and in the right hands,

on any but a very long course, it even does well against some fast home-built.

I decided to use the Cooper-Ford kit as the basis for a very fast modified car, one in which I could enter any race with the feeling that I at least had a good chance to win. The results were highly gratifying, and although I haven't had a chance to really give the car a thorough wringing out, I feel that I have accomplished what I set out to do.

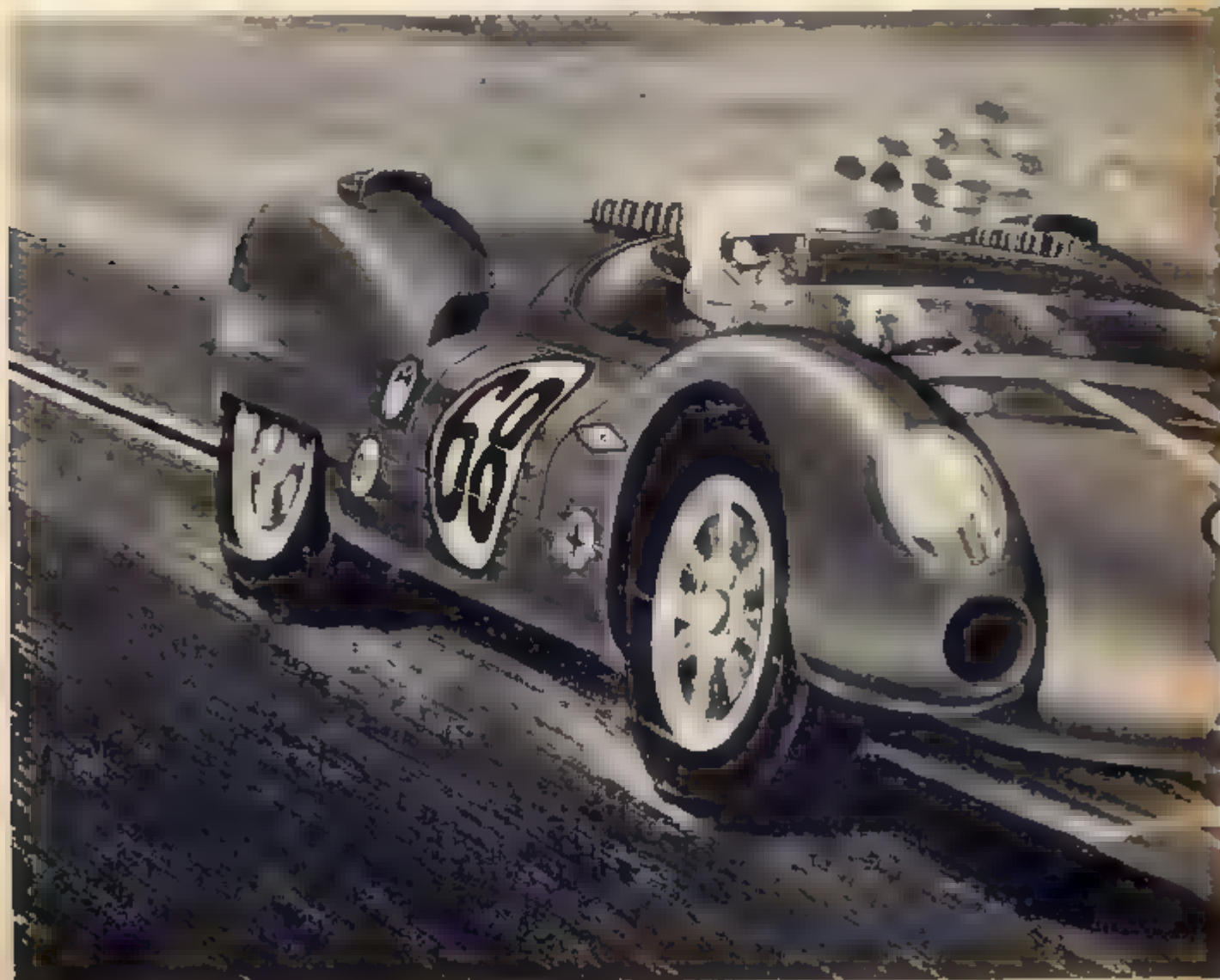
Rather than make an attempt to modify the superb stock motor that Monogram

calls the "Tiger X-100," and which is made by Mabuchi of Japan, I decided to use a very similar Mabuchi-made motor which has already been modified. The Ruskit "22" bolts right into the Monogram chassis without changing a single thing. It is similar in design to the Tiger X-100, right down the line, except for a few changes made that Ruskit has made. How simple can a motor swap be?

I used Tradeship bevels with this motor. The original axles, wheels, and tires were retained, as all are excellent. The tires give good traction and are attractive in appearance. The wheels are excellent machined aluminum, and the quality is superb, as you would expect from any Monogram product.

I retained the Monogram guide, but

Monogram's Cooper-Ford responds like a dream with these simple changes.



MONOGRAM

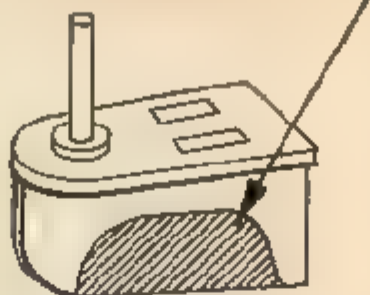
FOR MORE ACTION

modified it slightly to reduce drag on the wall of the slot. A "Pin" type guide gives the least drag of all, but is much more difficult to drive on a track that has a rough slot. By cutting away a great deal of the Monogram guide, I came up with a combination of good features from both a pin, and a blade-type guide.

Larger Oilite bearings were inserted in the rear because the smaller ones that Monogram supplies, although excellent, are harder to find in my particular part of the country. This is a completely unnecessary step, however, and could be skipped.

I also tapped the front axle holes out to 5/32 diameter, so I could insert a 15-16" long piece of 5/32 O.D. tubing.

CUT AWAY SHADED AREA



"This procedure is not new and I claim no 'firsts.' I only modified the guide as shown following the footsteps of others who have found it successful, and used it on fast racing machinery."

This piece of tubing acts as a large bearing, giving much more support to the axle than the sheet brass frame does.

There's not much one can say about the appearance of the new Monogram bodies, without appearing to be a raving fanatic! They are beautiful! On the Cooper-Ford, even the air vents on the rear fender wells are opened up for you, and the detail is terrific! In my opinion, the whole layout in stock form, is a smashing success and my warmest congratulations go to Monogram for a job well done! Keep them coming.

Start modifying the Monogram by laying everything out, and placing aside the parts you wish to replace. (The motor, gears, and rear bearings.)

If you wish to install bigger rear bear-



1 — Use the wood block for support while you drill the new holes.



2 — Deburr with a flat file.

ings, do it in the following sequence. Cut a wood block, $7/8$ " thick, and insert it inside the frame so it acts as a support while the holes are drilled out to $1/4$ " diameter. (Photo No. 1) This block keeps the lightweight brass frame from twisting as it is being drilled.

Now tap the front holes out with a $5/32$ size drill bit, using a $7/8$ " thick piece of wood as a support. De-burr the front and rear holes with a flat file. (Photo No. 2)

Cut a piece of $15/16$ " long, $5/32$ O.D. tubing for the front bearing. Exactly in the center of this piece of tubing, file a small notch with a file. This will serve as a point for which you can insert a $1/16$ " drill bit, and bore a hole through ONE WALL only of the tube. Without

first filing the notch, you would have a difficult time getting a "grip" on the round tube with the point of the drill bit. (Photo 3)

This hole will be an oil hole. Now temporarily insert an axle into the tube. Carefully adjust the axle inside the tube until exactly the same length of axle sticks out both ends. Reach through the oil hole in the tube, with a pencil. Rotate the axle slowly, so the pencil makes a mark all the way around the axle. Withdraw the axle.

Now chuck one end of the axle in a drill. Lay the electric drill flat on a table, and turn it on. Carefully push the edge of a small, flat file, against the pencil mark and cut a shallow trough. (Photo No. 4) This is the oil groove.

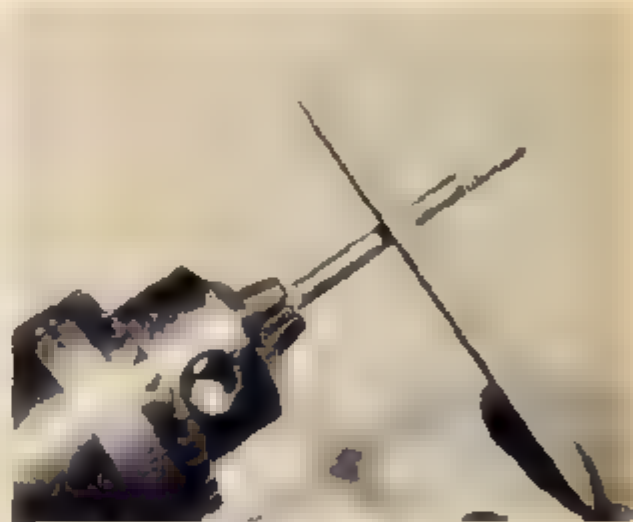
Now solder the tube in place in the $5/32$ holes in the front of the chassis. Coat the axle with toothpaste while it is still chucked in the drill jaws. Turn the drill on and insert the axle into the tube. Let it "lap-in" for about 30 seconds. This is the same technique I described in the Slot Racer's Workshop section of the November issue of MCS. The toothpaste has just enough abrasive qualities to make a good grinding compound. (Photo No. 5)

Remove the axle and flush the tube out with kerosene, and then oil. Insert the axle and position it with brass washers and plastic spacers, locking the whole thing in the proper position with jam nuts.

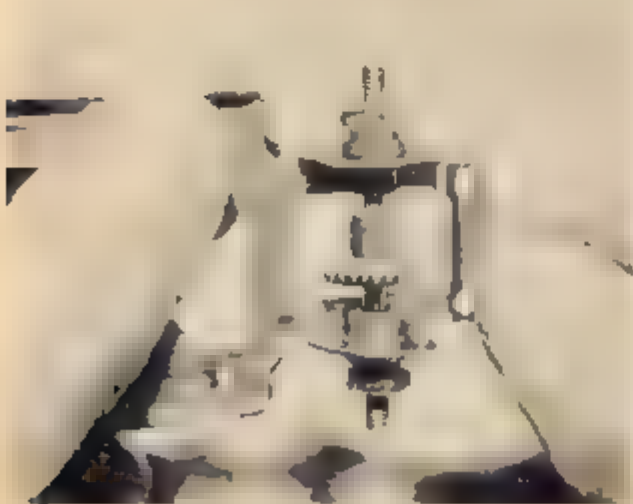
Secure the bigger Oilite bearings at



3 — File a notch in the center of the tube. Place the drill bit in the notch and drill a $1/16$ " hole through one wall of the tube only. This will be the front oil hole.



4 — Cut the oil trough in the axle by chucking one end of the axle in an electric drill. Lay the drill on a table, and turn it on. Hold the edge of a small, flat file, lightly against the rotating axle.



7 — The rear axle, correctly positioned with the use of standard Monogram spacers, etc.



8 — Solder the Tradeship pinion to the Ruskill "22" motor.

the rear with a few drops of contact cement or Epoxy on the shoulder of the bearing. Make sure the bearings are perfectly aligned by inserting an axle through both bearings, and leaving it there until the epoxy dries. (Photo No. 6) The axle should turn freely inside the bearings. If it does not, the bearing shoulder is probably not setting up "square" against the frame.

Slip the Tradeship bevel ring gear on the rear axle after the rear bearings are thoroughly dry. Temporarily lock the gear in position. Final adjustment can be made later. (Photo No. 7) Use plastic spacers, brass washers, and jam nuts to position the rear axle permanently.

Solder the Tradeship pinion to the Ruskit "22" motor. (Photo No. 8) I

used the Ruskit "22" in place of the X-100 motor, and it is the easiest motor swap I have ever done. Both motors are identical in outer appearance, right down to the point of identical screw holes for mounting. Pop the Ruskit motor in place and screw it down. (Photo No. 9)

Pierce the pickup braids, (Photo No. 10) and run the stripped ends of the motor wires into these holes. Solder in place.

That's about it. Primer the body, sanding between each coat, after trimming the excess flashing off the wheel well openings, etc. Finally give the body several thin coats of spray enamel. Apply decals, and the chrome goodies that Monogram supplies with their very complete kits.

Apply a drop of Loctite to all nuts,

bolts, etc., throughout the chassis. Adjust the gear clearances, and grease the gears, touching every other tooth only. Too much grease only slows things down. Make sure the collar that holds the pickup in place is not binding, and that the pickup can pivot freely.

Glue the tires to the wheels and sand round by holding them against a sand paper block. Make sure the tire is setting straight on the rim to begin with.

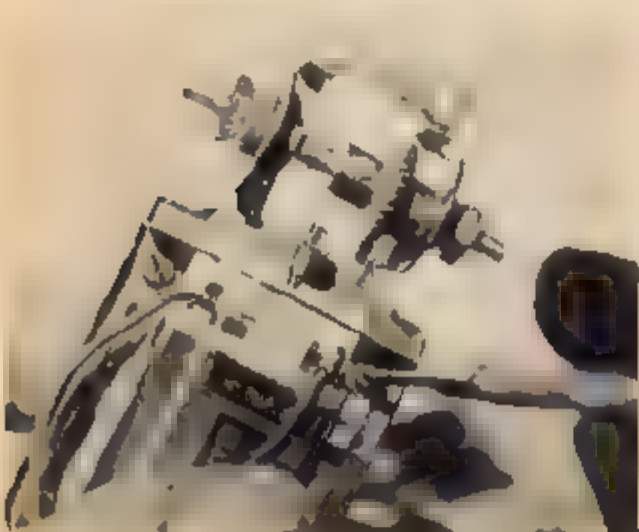
Man, isn't that a beauty! What a pleasure to have a fierce performing machine that has beauty to match. If you want to race in Grand Turismo class, all you have to do is remove the Cooper body, and install the Porsche coupe shell. Versatile, what? That's the Monogram people for you!



5 — Coat the axle with toothpaste and insert it in the front axle tube. "Lap it in" for about 30 seconds with the electric drill. Remove the axle and flush the tube with kerosene, and then oil.



6 — Put a few drops of Epoxy on the shoulders of the rear bearings. Insert in place and run an axle through both bearings to make sure they are aligned properly. The axle should turn freely in the bearings. Set aside to dry.



9 — Slip the Ruskit motor in place and screw it down.



10 — Pierce the pickup braids. Insert the motor wires and solder.

1/24th Scale Equalizer

MCS ROAD TESTS UNIQUE ENGINEERING'S NEW BREED



Unique's first ready to race cars include the 1964 Ford G.T. LeMans coupe and the 1964 Maserati 5000 G.T. Coupe.

This Ford G.T. broke the track record during its road test. It is now available with all components and ready to race for \$7.95.

ANYTIME something new is released from the Unique Engineering factory located in El Segundo, California it causes the ears on any knowledgeable enthusiast to grow to long, hairy points, while waiting for the latest specifications.

The newest from Unique is certainly no exception. Two new 1/24th scale cars have been sent forth from the factory to do battle with the best in the land. They should certainly do well, if tests on my home track are any indication.

The new cars are sold completely assembled. One is a replica of the 1964 Ford G.T. LeMans coupe, and the other, the 1964 Maserati 5000 GT coupe. Both cars feature clear plastic bodies, already mounted on the "Lite-ning" chassis, with standard pickup brackets, Russkit "22" motors, and Unique's own, #1001

tires. The Ford GT coupe comes equipped with 24-5 slotted wheels, and the Maser with 24-6 slotted wheels. Both machines have a compensating front end suspension.

Unique's drop pickup is optional, should you feel that the pickup belongs buried in the groove on rough tracks.

I could hardly wait to get the new Unique machinery on my home track, which is a huge, 4 lane 1/24th track with many elevation changes, hairpins, long, and I mean l-o-n-g straights, and a few really fast sweepers.

I removed the clear plastic body and put the chassis on a Dynamic test block. I applied a small amount of gear grease to the metal gears and pumped a little "juice" through the motor. Everything turned over nice and quietly. I have a Russkit "22" motor mounted in several

home-builts, and know what it is capable of, so I had high expectations.

I like to break a motor in on a test block. My usual method is to apply a small amount of electricity to the motor and let it run at a steady r.p.m. for about 30 seconds, and then increase the r.p.m. another couple thousand and run it there for another 30 seconds, and so forth.

With the Ford GT body back on, it was time to go. Crash helmet buckled on, gloves on, belt on. Check. (I take my road testing seriously.)

The Unique copper-fiberglass laminated chassis is really lightweight, which is necessary with a small motor like the Russkit "22." The entire chassis, complete with motor, weighs less than some 1/24th scale motors alone! With this in mind I set out on the trail of a hot lap.

Hot laps don't just happen. They must

MODEL CAR SCIENCE

be planned carefully, and driven coolly. You must also know your machine, as I soon found out.

The lap record for 1/24th scale cars on my home track is held by Don Fletcher, a Chicago hot-thumb, with a Pittman DC 706 sidewinder in a home built chassis. The record is 14 seconds flat. This, of course, is what I was aiming at.

The Unique Ford GT charges off the line like a dragster! My course is set up partly on a 16' x 8' table, with the main "heart" of the road course laid out in the regular road-race fashion. However after one hot dish through the entire course, the track takes off across the end of my basement wall makes a hard left, and charges the full length of my basement. The track climbs out of that first hard left-hand corner which is mounted down low to the floor and runs up to about a 7 ft. height, so you are really climbing a mountain. Once the hill is created, the track drops sharply into a hard left hander that is located under my basement stairs. As you can see, I am a sadistic track designer! From that left hander the track runs down the same basement wall running slightly down hill all the way until it gets to the end of the basement. There it makes another hard right and across the end of the basement, into another hard right, and then back into the road course.

The first hard lap was very nearly my undoing. After charging off the line and making it through the entire table course, I soared out onto the wall-roadway. The first left hander was no problem, and neither was the second. However, the lightweight Unique machine charged up that steep hill a darn site faster than I had anticipated, especially with such a small motor, and I created the top of the hill a little too fast and she became airborne!

The car landed slightly off center of the slot and rolled end for end and then sideways about ten times for good measure, and finally came to rest under the basement steps, well off the course.

I thought the end of the road test



had come a little early, but to my joy and great surprise, the car was whole and still operable! I put it back on the test block and checked it over thoroughly, all was well. A true test of the new Unique's sturdiness! Even the seat plastic body had remained uncracked, due, I am sure, to the special body mounting brackets, which are padded with rubber bumpers to prevent scratching of bodies that are painted on the inside. They also cut down a great deal of noise that would normally be transmitted from the metal chassis to the body.

Finally I was back on the track. After several cautious laps, I began to feel that I was becoming good friends with the new car. The acceleration was fantastic, and the handling superb. The soft rear tires were perfectly suited to my course and the car drifted to just the degree I liked, not too much, and yet it was not overly sticky, which can really cause a car to be a handful.

The 15th lap produced a lap of 14.01, the 17th lap another 14.01, and the 20th lap a 14.0 flat. I had tied the lap record after only 20 laps with a brand new chassis. I was so elated that on the 24th lap I spun wildly in one of the faster sweepers. (When you are out there on the edge where you can hear angels singing, buddy, it's no disgrace to spin occasionally.) Show me a guy who never spins out, and I'll show you a guy who's going too SLOW!

After the spin came a gaggle of 15

Completed car with copper-fiberglass laminated chassis and Ruskit "22" motor weighs less than some 1/24th scale motors alone.

second laps, a common occurrence after experiencing a bad spin out. Accidents make you cautious.

Finally, on the 30th lap, the Unique cracked through the 14 second barrier with a resounding 13.8 lap! I felt like a proud father.

Back in the pit area with a cup of steaming coffee, and a little time, I examined the new Unique chassis closely. The chassis had obviously had some very serious thought go into it, and fresh new ideas are always welcome in any field of endeavor. The fiberglass is sandwiched between two layers of copper, resulting in a super-lightweight chassis that can still be soldered.

Anyone who has ever read any of my articles will testify to my dislike for most conventional methods of attaching the braded brushes to the pickup. Once again, Unique scores highly with a positive method of securing the brushes to the pickup with a spade arrangement, to which the motor wires are SOLDERED. Beautiful! You won't have to worry about small screws coming loose with this pickup.

The chassis will take just about every motor known to the slot racing industry. It is completely versatile.

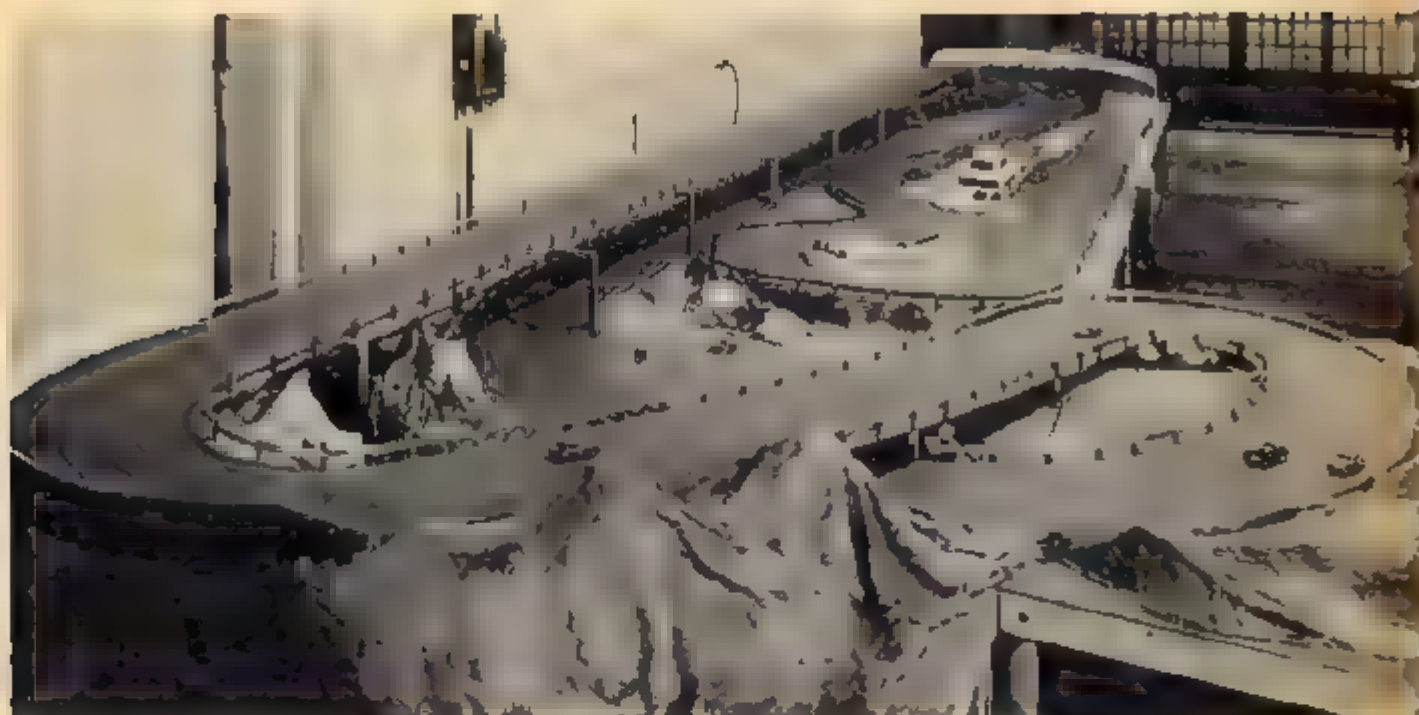
What could I find wrong with the new Unique chassis? Nothing. The one and only change I would make before attempting serious racing, would be to install a good set of bevel gears. That's the extent of the modifications. It's a great machine! I don't think you'll beat one, so you'd better buy one!

If you don't happen to be a Maserati or Ford GT fan, Unique will be adding a car a month to their racing stable. Next in line is a Lotus 30, due out this month. All these ready to race cars will sell for \$7.95.

Both the Ford GT and the Maserati sport Unique's Lite-Ning chassis which will take most of the popular motors.



Scenery for Every Scale



An otherwise bare track can be dressed up considerably with the addition of some easy to make "mountains" and landscaping.

Want more realism for your slot racing dollar?
Then try these expert tips on your home or club track:

By Richard Howard

IT NEED NOT BE AN EXPENSIVE undertaking to landscape your track if you scratch build. By the way, scratch building means just that, building from scratch parts from around the house. In answer to a surge of mail regarding inexpensive methods of landscaping, here are nine money-saving tips.

Ground Cover: While many recommend a framework of screening as the under base it's really not necessary to build a complicated frame as the base for your plaster. Newspapers tightly rolled and taped or nailed to the table is just as good and a lot simpler to construct. Mix your casting plaster a pound at a time for ease of application. To 14 ounces of plaster add 8 ounces of water and mix well. If you plan to mix smaller or larger patches use the formula of two parts plaster to one part water. The solution will seem quite thin but it's easier to pour and shape in this consistency. A butter knife is the best tool for shaping the contours. Take your time and shape the ground cover in uneven waves. Before the plaster sets is the best time to add your trees and hedges etc. It will save a lot of glue later on. Paint the

entire cover a flat brown. Any type of paint will do. When dry, brush in gray and green tones with an almost dry brush. This will give you a realistic blended color.

Bushes: You can do it the easy way and buy some lichen at your hobby dealer or take a walk in a park or some woods and "borrow" some tree moss. Dry it out in the sun and paint to preserve it. If you really want to be lazy raid the medicine cabinet for some cotton balls and paint them green, gray, etc.

Hedges - Hay Bales: Under carpet padding makes an excellent base when painted green for hedges or yellow for hay bales. Wrap the hay bales with copper wire to simulate bindings for even more realism.

Trees: Any fir or pine tree is an excellent source of supply for trees. Cut different lengths from the bushy ends of the lower branches and dip or brush the entire piece with green paint to preserve it. When dry, paint the trunk a brown and it's finished. With this inexpensive method you can have a tree covered layout that costs practically nothing.

Stone Fences: Build a form from stir sticks or any type wood strips, 1/4 inch thick, one inch high, and as long as you wish. Put a layer of small pebbles (the type used in home aquariums) and pour a thick plaster mixture over them. When the plaster becomes firm but not hard, spread a layer of pebbles on top and let dry (about one hour). Then break the form away and give it a weathered look by rubbing charcoal or graphite into the wall.

Rail Ties: Get a thick rubber hose, about a half inch in diameter, from an auto supply house. Slice a quarter inch wide with a sharp knife and cut in two. Paint white and use them on the inside of corners and around the pits etc.

Barrel: Use a quarter inch diameter wood dowel about one inch high. Paint white, orange, or yellow.

Roll Bars: Use large paper clips, cut to desired height, just behind the driver.

Bill Boards: Glossy full color advertisements in sports car magazines supply as many different sizes of copy as you'll need. Remember that billboards come in all sizes and shapes so you don't have to worry about the right scale.



HO fans can add such details as apartment buildings, lakes complete with boats, and hillsides covered with "foliage."



Pit areas can easily be turned into a beehive of activity with model soldiers that have been repainted and authentic backgrounds.



Flag poles add authenticity and are extremely easy to make using scraps of carpet padding wrapped with copper wire.



Overpasses are easy to construct and can be decorated with flags and signs. Other track-side items such as fences and walls add color.



If you want to go all the way, don't overlook such extras as an entrance to the racecourse. Signs can easily be hand lettered.



Dramatic realism can be achieved merely by the addition of a start-finish line and a pit area that displays the activity of a busy course.

STINGRAY RACING STABLE *Continued*

aerodynamics and eliminate handling problems at high speed. A lower frontal area with improved penetration and a lower drag coefficient is the aim. This car would be used mainly on the high speed courses of Europe where maximum speeds are in the neighborhood of two hundred miles per hour.

Overall height of our model must be lowered to the ultimate to reduce frontal area. As it is also a rear engine car, the cab must be brought forward as on the previous one. The windshield is sloped to the maximum and the base is also radiused more for better air flow. This requires working the lower edge of the windshield opening forward somewhat in a gentle radius. This can be accomplished by using a wood burning tool to heat and form the plastic forward and then filing the excess away. Additional width has also been incorporated in the cab

for increased interior room with a section added at the center line. The rear section of the cab has very soft flowing lines to maintain good air flow. This can be built up in a manner somewhat like the fastback on car number two or you can take the easy way out and use the rear section of a Revell XKE Jaguar body. If it's trimmed properly, and with the same amount added to its width, it will be a good fit.

The rear overhang has been reduced on this model by bringing the rear panel as far forward as possible, which will require trimming at the rear wheel cutouts. The rear body mount bridge is trimmed as required to mount as high as possible in the body and now glues to the flat section of the top rather than the lower panel. In this position there will be interference between the tires and the body section. To allow clearance in this extremely low position, the peaks of the fenders are cut lengthwise and verti-

cally above wheel centers. Tapered wedges are then installed in the cuts just made. They should be about .060 maximum tapered to zero at the ends. This will spread the existing material outboard and the vertical cut will become a gap, this should be filled with scrap material and then small doublers glued on the outside. When these have dried thoroughly, they may be blended into the original fender lines. We now have a much larger hump in the fenders and by doing a little filing on the inside there will be adequate clearance for the tires.

A change not easily noticed on this model is its lowered hood line. This is accomplished by making two saw cuts from the front back to the rear edge of the false grilles along the hood lines. The front panel is then notched, with material removed, down to the edge of the radius of the grille opening. With the front section in place, there will be a horizontal gap between the top and front sections between the saw cuts. This section can then be pulled down to meet the front section but must be held until glue has set securely. The small gaps appearing at the sides should be filled with scrap plastic and then all edges blended well. Air exit ducts are again installed in the hood and side panels just behind the wheels. Various methods were tried in making these duct openings and the one found to be the easiest was to make a cut through the plastic at the front edge. Use a thin flat Swiss file and start removing the material on the left side of the cut. Shallow outlets will only require filing until the edge is sharp. Then blend back to form the sides of the outlet. If deeper ducts are wanted, a bit of scrap material must be glued behind the cut to allow filing to a greater depth.

Due to the changes made in the window shapes and contours, the original glass section cannot be used and will have to be replaced with flat sheet stock. The interior will also come in for its share of rework. A new panel, from the doors back, will have to be made and fitted to the interior. The front section will require the removal of some plastic directly over the motor for clearance.

Any of the models in this article can be made by most anyone who has tried customizing a static kit. All modifications have been performed using only flat sheet stock for changes. The only body putty used was for filling small imperfections.

Our team is finished in various combinations of the American racing colors, blue and white for easy identification. They were fun to dream up and to build and add a personal touch to our other Model Car Racing Team.

MODEL CAR SCIENCE

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Dynamic News

THE "WORD" FROM DYNAMIC MODELS

Vol. 2, No.3

Van Nuys, California

March, 1965

GET BETTER THAN HIGH QUALITY ... GET DYNAMIC QUALITY-IT'S GUARANTEED!

Here's Proof That Our "DynaMite" Chassis Is The Best You Can Buy . . .



The ideal model race car chassis must have 5 important features: **lightweight**, **low center of gravity**, **ease of assembly**, **maximum adjustability** and **versatility**. The "DynaMite" Chassis is outstanding in every feature and here's proof . . .

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All DynaMite chassis are "feather" light, high strength cast aluminum. For example, our new Cat. 500 Chassis weighs less than 1 ounce. If driving experience indicates extra weight is needed, a lead weight (Cat. 688) may be used.

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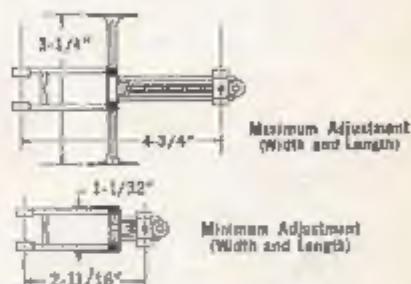
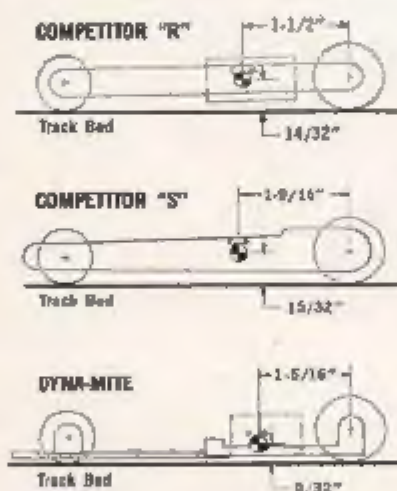
When you put your "scratch" car together, you want to do it quickly and easily with a minimum of equipment. Check these facts . . .

MANUFACTURER	ASSEMBLY TIME	NECESSARY TOOLS
Competitor "R"	Over 1 hour	Screwdriver, Knock-off-Nut Wrench, Patience
Competitor "S"	Over 3 hours	Same as above plus Soldering Iron and Knife
Dyna-Mite	34 minutes	Screwdriver and K-O-N Wrench

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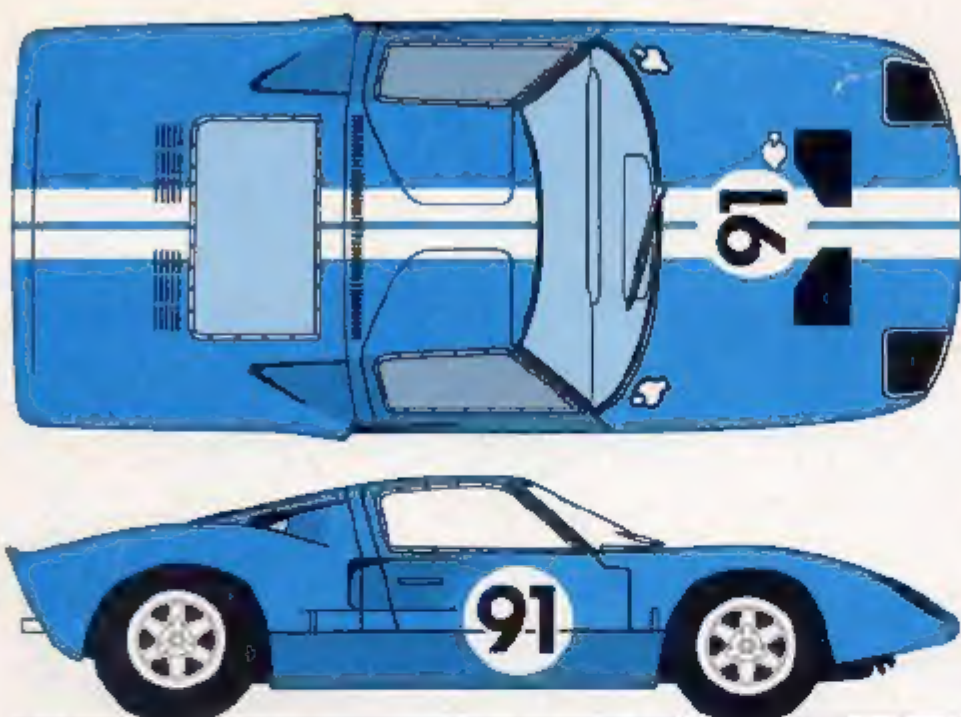
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